IN THE

Supreme Court of the United States

OCTOBER TERM, 1923.

No. 176.

JOSEPH RADICE, *Plaintiff in Error,*

vs.

PEOPLE OF THE STATE OF NEW YORK.

IN ERROR TO THE CITY COURT OF BUFFALO,
STATE OF NEW YORK.

SUPPLEMENTAL BRIEF FOR PLAINTIFF IN ERROR.

STATEMENT.

This Writ of Error and Record bring up for review the New York statute chapter 535 of the laws of 1917, set forth at folios 100-109 of the Record, alleged to be violative of and repugnant to Section 1 of Article 14 of the Amendments of the Constitution

of the United States, folios 120-134 and 979-985 of the Record, and also as repugnant to and violative of section 10 of Article 1 of the Constitution of the United States, folios 128-131, 986-990 of the Record, and that said legislative act of New York was null and void, folios 120-132, 985 and 990, and therefore the violation of an omission to comply with the provisions of said legislative act did not constitute a crime, subjecting the defendant, plaintiff in error, to the penalties of the New York Penal Law Section 1275, folios 995-997.

The trial court found the defendant guilty of the offense charged and imposed a fine of $20 upon him, folio 1005, and the defendant excepted to the rulings of the trial court on all the grounds thereinbefore stated, folios 1003-1006. The grounds for defendant's motion for his acquittal included among others those hereinbefore stated, folios 970-1005. The defendant appealed from such judgment of conviction through the Appellate Courts to the Court of Appeals in New York, that being the highest court of law and equity of the State, and raised and argued such Federal questions in all such courts of New York as fully appear in the printed Record, folios 1082-1102, and page 222, and such judgment of conviction was affirmed by the Courts of Appeals, pages ii and iii of the Record, and made the judgment of the City Court of Buffalo, pages iv and v of the Record, to which City Court of Buffalo the Writ of Error from this Court was allowed by the Chief Judge of the Court of Appeals of New York, and the bond of plaintiff in error was approved by him and the citation was issued and served, pages 233 and 235 of the Record, upon the petition of the plaintiff in error, pages 222-232 of the Record, and upon the assignment of errors, pages vi-x of the

Record, and prayer for reversal, pages x-xi of the Record. So far as authorized by the Act of February 13, 1911, and the Rules of this Court, the Record in the State Court is used in this case. The assignment of errors at pages vi-x inclusive, of the Record, set forth the errors of the Court of Appeals, the highest court of law and equity of the State of New York and the errors of the other courts of New York in affirming the conviction of the plaintiff in error of the violation of said Chapter 535 of the New York laws of 1917, which legislative act plaintiff in error alleged in his answer in the trial court, folios 114-133, and urged in all the appellate courts of New York was violative of and repugnant to both Section 1 of Article 14 of the Amendments of the Constitution of the United States and also to Section 10 of Article 1 of the Constitution of the United States, and therefore said legislative act of New York was null and void.

That statute is printed at folios 100 to 106 of the Record. So far as involved in this case it is only the inhibition against females working before 6 o'clock A.M. and after 10 o'clock P.M., that is drawn in question. No question is raised as to the limitation of the number of days in a week or the number of hours in a week or the number of hours in a day that are prescribed by the statute.

The statute, however, absolutely prohibits females from employment in restaurants before 6 o'clock A.M. or after 10 o'clock P.M., except those employed as singers and performers of any kind or as attendants in ladies cloak rooms and parlors. The same section also provides "nor shall it apply to females employed in connection with dining rooms and kitchens of hotels or in connection with lunch rooms or

restaurants conducted by employers solely for the benefit of their own employees," folios 104-105.

The New York Courts have held in this case that said statute prohibited the employment of waitresses before 6 o'clock A.M. and after 10 o'clock P.M. in restaurants in cities of the first and second class in New York. It also prohibits dish washers and persons employed "in cooking in restaurants," which, in commenting upon the decision of this Court in Truax vs. Raich, 239 U. S. 33, Mr. Justice Butler, in the recent case of Webb vs. O'Brien, aptly characterized as "a common occupation."

Plaintiff in error is a citizen of the United States and a resident of Buffalo and the proprietor of a restaurant at 635 Main Street in said city in the vicinity of several theaters patronized by the people of that city who frequent such restaurants at the close of the theaters and other persons engaged in various occupations who must breakfast before entering upon their duties in many cases before 6 o'clock A.M., also frequent such restaurants.

In supplying these food necessaries of life, restaurants in cities of first and second class are maintained under State sanitary and hygenic supervision and regularly inspected. Plaintiff in error was so engaged in November, 1917. One Anna Schmidt was employed therein as a waitress with the approval of her husband who had been conscripted and drawn into the Federal service and had no means of supporting his wife and family, other than what his wife was able to earn and after due consideration the husband and wife decided that she should engage in the restaurant maintained by the Plaintiff in Error principally for evening service when she could be spared from the care of the children, who were put to bed, and when she could

realize the most for her services from tips liberally bestowed by patrons of the restaurants at 10 and 11 P.M. on their return from theaters. She had been so employed some time under contract when on October 1, 1917, the New York statute in question took effect and shortly thereafter the Plaintiff in Error who was maintaining his restaurant, certified in the Record to be perfectly hygenic and sanitary, was summoned to appear before the City Court of Buffalo for employing or permitting said Anna Schmidt to serve as a waitress after 10 o'clock at night. He interposed a formal answer to the charge against him and raised in his answer in the trial court the Federal questions hereinbefore set forth and also pleaded not guilty to the said charge or to the commission of any crime. The case was made a test case and evidence was submitted from employers, employees, medical authorities, sanitary authorities and others, all of whom with one or two exceptions testified to the healthfulness, sanitary and hygenic conditions of such employment. At the conclusion of testimony on behalf of the defendant a motion was made for his acquittal on all the grounds stated in the Record, folios 970-1000 and after much deliberation the Trial Court decided as follows:

> "My decision in this case is that the constitutionality of the law should be sustained, that is, that the Legislature in passing this statute was within the proper exercise of the police power of the state." Folio 1003-1005.

The defendant excepted to the rulings of the Trial Court in its denial of defendant's motion for acquittal on all the grounds stated in the Record and the Court thereupon imposed a fine of $20.00 to which final deci-

sion defendant's counsel duly excepted on all the grounds thereinbefore stated, folio 1006.

Thereafter the defendant appealed to the County Court of Erie County having jurisdiction of such cases. The judgment of conviction was affirmed, folios 71-74, by said Court, and from such judgment of affirmance, defendant appealed to the Appellate Division of the Supreme Court in and for the Fourth Department of the State of New York, folios 14-18, where said judgment of the County Court of Erie County was affirmed, folios 1051-1056, and from such Appellate Division judgment of affirmance, an appeal was allowed by said Appellate Division to the Court of Appeals, folios 1061-1081, and after being argued in that Appellate Court, said judgment of conviction was affirmed by said Court of Appeals, pages ii and iii and said judgment was made the judgment of the City Court of Buffalo, as hereinbefore stated, and a Writ of Error was issued out of the Supreme Court of the United States to said City Court of Buffalo to review said judgment.

THIS A STATE TEST CASE.

This case is of statewide importance to the people of New York State, as the cities of the first and second class are eleven in number and the largest cities of the State, and have an aggregate population of over 7,000,000, or 7/10 of the population of the entire State. They are discriminated against by the New York legislative act in question, which prevents females from performing any service before 6 A.M. or after 10 P.M., except those especially authorized, and females are thereby prohibited from serving or preparing food supplies, a perfectly healthful occupation,

as shown by the great preponderence of evidence, to the great masses in such cities, who are forced to work at many kinds of employment in the nighttime.

For the first time, so far as I am advised, this Court is called upon by the defenders of such measure to uphold a statute which prescribes a *schedule of hours* in a normal and perfectly healthful occupation within which females may work and prohibits their working in any other hours than those in the schedule. In other words, they may work from 6 A.M. to 10 P.M. in restaurants, but not before 6 A.M. nor after 10 P.M. in cities of the first and second class, notwithstanding such service is to supply food to support life. By the terms of said act females, who are now enfranchised by the Nineteenth Amendment and qualified to fill all sorts of public positions, and to perform all kinds of services, are absolutely prohibited from performing the normal and natural service of serving in restaurants before 6 A.M. or after 10 P.M. At the very time that act was passed, they were serving as conductors in street cars and as conductors in elevators and engaged in other occupations of night employment in all the cities of the State.

RECENT DECISIONS.

Mr. Justice Sutherland in Adkins vs. the Children's Hospital of the District of Columbia said that the assumed differences between the sexes that were recognized in the Muller, Riley, Miller and Bosley cases "have now come almost, if not quite, to the vanishing point." In the pending Radice case, as was pointed out by Mr. Justice Sutherland in the Adkins case, Anna Schmidt was obliged to surrender a desirable engagement and Mr. Radice, plaintiff in

error, was obliged to dispense with her desirable services as he was obliged to dispense with the services of other female employees after 10 P.M.

Mr. Justice McReynolds in the recent case of Meyer vs. Nebraska, in defining the liberty and protection of the 14th Amendment of the Constitution said "It denotes not merely freedom from bodily restraint but also the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge, to marry, to establish a home and bring up children, to worship God according to the dictates of his own conscience, and, generally, to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men," citing many cases. He said, "The established doctrine is that this liberty may not be interfered with, under the guise of protecting the public interest by legislative action, which is arbitrary or without reasonable relation to some purpose within the competency of the State to effect. Determination by the Legislature of what constitutes proper exercise of police power is not final or conclusive, but is subject to supervision by the courts. Lawton v. Steele, 152 U. S. 133; Adams v. Tanner 244 U. S. 594.

In Lawton v. Steele, this court said:

> "The legislature may not, under the guise of protecting the public interests, arbitrarily interfere with private business or impose unusual and unnecessary restrictions upon lawful occupations. In other words, its determination as to what is a proper exercise of its police powers is not final, but is subject to the supervision of the courts."

In many cases such as the following, this court held that police powers had been improperly exercised un-

der statutory enactments, and such statutes were held to be unconstitutional. A California statute requiring a bond for certain classes of passengers described was held to be unconstitutional. Chy Lung vs. Freeman, 92 U. S. 275. A Missouri statute law was also held to be unconstitutional in Hannibal and St. Jos. R. Co. vs. Husen, 95 U. S. 465. A New York statute was held to be unconstitutional by the Court of Appeals of New York in Rockwell vs. Nearing, 35 N. Y. 302, which is cited with approval by the Supreme Court in Lawton vs. Steele, and many other cases are cited illustrating statutes based upon assumed police powers held to be unconstitutional as invading the rights of persons and property protected by the 14th Amendment of the Constitution.

UNCONSTITUTIONAL STATUTES.

In the late case of Adams vs. Tanner, 244 U. S. 590, Mr. Justice McReynolds points out the invalidity of such restrictive legislation, as the Washington statute making it criminal to collect fees from workers for furnishing them with employment or with information leading thereto on the ground that such restrictive legislation is an unwarrantable and arbitrary infringement by its provisions, of the rights of persons under the 14th Amendment to the Constitution of the United States, and an improper exercise of the police powers of the state of Washington. And there are many cases in the courts illustrative of the unlawful exercise of police powers by states in contravention and violation of the express inhibitions contained in Section 1 of Article 14 of the Amendments to the Constitution of the United States. In these later days there have been many attempted encroachments, in the guise of

exercise of police powers of the state, upon those fundamental rights secured by the Federal as well as some state constitutions. Police powers, however, can not be exercised in contravention of the guarantee of equal protection of the laws which must be enjoyed by all persons alike in the same place and under like circumstances. Missouri vs. Lewis, 101 U. S. 22, 31.

POLICE POWERS OF THE STATES LIMITED.

Police powers of the states can not be exercised in contravention of the express provisions of the Constitution of the United States. No right granted or secured by the Constitution of the United States can be impaired or destroyed by a state enactment, whatever may be the source from which the power to pass such an enactment may have been derived. Connolly vs. Union Sewer Pipe Co., 184 U. S. 558. In the latter case Justice Harland said the state has undoubtedly the power, by appropriate legislation, to protect the public morals, the public health and the public safety, but if by their necessary operation its regulations looking to either of those ends, amount to a denial to persons within its jurisdiction of the equal protection of the laws, they must be deemed unconstitutional and void, citing the following cases, Gibbons vs. Ogden, 9 Wheat. 1, Sinnot vs. Davenport, 24 Howard 227, 243, Mo. K. & T. R. Co. vs. Haber, 169 U. S., 613, 626.

The New York statute in question in this case was not enacted to affect any business clothed with a public trust as illustrated in the much criticized case of Wilson vs. New, 243 U. S., 332, 352, and it was expressly held by the Chief Justice of the United States in the recent case of Wolff Packing Co. vs. Court of Industrial Relations, that the business of food prep-

aration was not devoted to a public use to clothe it with public interest so as to permit regulation of rates or prices. The Chief Justice in that case said:

> "Public use in such case would seem to be a term of wider scope than where it is used to describe that which clothes property or business with a public interest."

And it was further held that the mere declaration by the Legislature that a business is affected with a public interest is not conclusive of the question whether or not its attempted regulation on that ground be justified, and the statute under consideration in Wolff Packing Co. vs. Court of Industrial Relations, was held to be violative of the provisions of the Fourteenth Amendment of the Federal Constitution, which forbids the deprivation of life, liberty or property without due process of law. The Chief Justice, among other things, said:

> "The legislative authority to abridge the freedom guaranteed by the Constitution can be justified only by exceptional circumstances,"

citing Meyer vs. Nebraska, Adkins vs. Children's Hospital, recently decided by this court, Coppage vs. Kansas, 236 U. S., 14, and many other cases. Such cases are applicable to the pending Radice case, which is one of the most flagrant illustrations of the attempted extension of legislative authority into the realm of individaul and property rights secured by the 14th Amendment to the Constitution, that has ever been brought before the courts. As already stated, it is the first instance of which there is any record of an attempt to establish *a schedule of hours*, out of the twenty-four hours, within which persons may pursue a perfectly normal occupation. If the New York stat-

ute under consideration can be upheld, then the Legislature may at the next session still further limit the hours within which females may be employed and may finally prohibit absolutely their employment in restaurants, which all authorities agree is not only normal but is natural, and which the evidence overwhelmingly established in this case tends to produce not only health, but longevity. In every respect the case differs materially from the conditions before the court in the case of Bunting vs. Oregon, 243 U. S. 426, where there was no evidence upon which this court might reach a different conclusion than it did reach. In this case the attempted classification is unreasonable, arbitrary, unfair and destructive of the equal protection of females desiring to engage in an honorable livelihood, as compared with those not legislated against.

Mr. Justice Hughes, in Truax vs. Raich, 239 U. S. 40-42, in declaring unconstitutional the Arizona statute prohibiting the employment of not less than eighty per cent of qualified voters, or native born citizens of the United States in that state, which was held to prohibit the employment of an alien cook in a restaurant, said "it required no argument to show that the right to work for a living in the common occupations of the community is the very essence of freedom and opportunity that it was the purpose of the (14th) Amendment to secure." That case has been frequently cited in later cases in this court, as an authority on such constitutional rights.

Possibly the most exhaustive exposition of the scope and certainly of the historical background of the Fourteenth Amendment is that of the Chief Justice of the United States in Truax v. Carrigan, 257 U. S., 312-

37, cited at some length in the Brief of Plaintiff in Error. Little more need be said in addition to that illuminating opinion upon the fundamental rights, including the equal protection of all, before the law, of which worthy females and citizens of the United States, desirous of earning a livelihood in restaurant service, are legion in cities of the first and second class of the State of New York.

In the statute under consideration in Connolly vs. Union Sewer Pipe Co., 184 U. S. 540-571, there was an exemption in the ninth clause thereof that the act should not apply to agriculture products or to live stock while in the hands of the producer, whereas in the act under consideration in the same section, it expressly provides this provision shall not apply to females employed in restaurants, dining rooms, kitchens of hotels, etc., thereby containing a discrimination in the very section containing the inhibitions involved in this litigation. In the former case this court held the act was discriminatory and therefore unconstitutional. In several recent cases such as State vs. La Barron, 162 Pacific Rep., 267, an act of somewhat similar import was held to be unconstitutional which deprived restaurant keepers, other than railroad companies, of the equal protection of the law, and imposed upon them and their employees burdens not imposed upon railroad companies engaged in the same kind of business and under substantially the same circumstances.

In a recent case it was said that the legislature can not take what might be termed a natural class of persons, split that class in two, and then arbitrarily designate the severed factions of an original unit as two classes and thereupon enact different rules for the

government of each. State vs. Julow, 129 Mo. 163, State vs. Miksicek, 225 Mo. 561, Bailey vs. People, 190 Ill. 28, and other cases cited in the principal brief for the Plaintiff in Error.

No theory of classification can save sub-division three of the statute under consideration, with its exceptions, exemptions, and inconsistencies, folios 104-105, from the condemnation pointed out in such cases as

Gulf C. & S. F. R. Co., v. Ellis, 165 U. S. 150-165;
Cotting v. Kansas City Stock Yards, 183 U. S. 79;
Connolly v. Union Sewer Pipe Co., 184 U. S. 540;
Coppage v. Kansas, 236 U. S. 18-19;
Royster v. Guano Co. v. Virginia, 253 U. S. 415.

State police powers cannot nullify nor abridge the scope and protection of the Fourteenth Amendment as expounded by this Court. Therefore, we respectfully submit that the Court of Appeals of New York and the other Appellate Courts mentioned in the record erred in holding that the New York statute under consideration was not violative of and repugnant to the inhibitions of the Fourteenth Amendment and in sustaining the conviction of the plaintiff in error.

This supplemental brief is not intended to supersede the principal brief, but to show the steps taken in the procedure in the lower courts in reaching the Supreme Court of the United States, and to call particular attention to the recent cases in this court.

All of which is respectfully submitted.

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Office Supreme Court, U.
FILED
OCT 18 1923
WM. R. STANSBURY

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JOSEPH RADICE,
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PEOPLE OF THE STATE OF NEW YORK.

In Error to the City Court of Buffalo,
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BRIEF FOR PLAINTIFF IN ERROR.

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BATAVIA TIMES, LAW PRINTERS,
BATAVIA, N. Y.

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In Error to the City Court of Buffalo, State of New York.

BRIEF FOR PLAINTIFF IN ERROR.

Statement of the Case.

Writ of Error to the City Court of Buffalo of the State of New York (pages 234-235) to review a judgment of the Court of Appeals, the highest court of Law and Equity of the State of New York, made the judgment of said City Court of Buffalo (pages iv and v) entered on the 30th day of August, 1922 (page iv), affirming the judgment of the Appellate Division of the Supreme Court in and for the Fourth Department (pages iii and iv and folios 1051-1060) affirming the

judgment of the Erie County (New York) Court (fols. 1061-1066), which affirmed the judgment of the City Court of Buffalo, finding the plaintiff in error (defendant in City Court of Buffalo) guilty of violating the provisions of Chapter 535 of the Laws of 1917 of New York, being a new subdivision 3 to Section 161 of Chapter 36 of the Laws of 1909 of New York (fols. 96-106, 1005) and imposing a fine of $20 upon said plaintiff in error (fol. 1006) as authorized by Section 1275 of the Penal Law of the State of New York. The defendant plead not guilty and filed a formal answer (fols. 114-132) to the charges preferred against him (fols. 88-95). The defendant in the courts below, who is plaintiff in error in the Supreme Court of the United States, was charged with the violations of Section 161 of Article 12 of the Act of the legislature entitled "An Act relating to labor constituting Chapter 31 of the Consolidated Laws, being Chapter 36 of the Laws of 1909 as amended by Chapter 535 of the Laws of 1917" in that he did, on the 10th day of November, 1917, in the City of Buffalo, County of Erie and State of New York, as a partner in a restaurant known as T. R. & C. Restaurant at 635 Main Street in the City of Buffalo, County of Erie, New York, did permit and employ one Anna Schmitt of 592 Niagara Street in the City of Buffalo, County of Erie, New York, a woman to work in said restaurant as a waitress after ten o'clock P. M., to wit. 11:03 P. M. (fols. 88-95, 107-110).

The trial proceeded before Judge Albert A. Hartzell in the City Court of Buffalo from January 29th, 1918, at sundry dates to and including October 15th, 1918 (fols. 134-1006). At the conclusion of the evidence, defendant's counsel moved the court for the acquittal of the defendant of said charges preferred against him on several grounds set forth in the record at folios 970 to 1000. Among such grounds so stated was that Chapter 535 of the Laws of 1917, included in the Record at folios 100 to 106, was repugnant to and in violation of that part of Section 1 of Article 14 of the Amendments to the Constitution of the United States, which reads as follows:

> "No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

(fols. 978-985). Among such grounds so stated was that Chapter 535 of the Laws of 1917, included in the Record at folios 100 to 106, was repugnant to and violative of that part of Section 10 of Article 1 of the Constitution of the United States, which reads as follows:

> "No State * * * shall pass any * * * law impairing the obligation of contracts." (fols. 985-990).

And among such grounds so stated was also the following:

> "That the violation of an omission to comply with the provisions of said Chapter 535 of the New York Laws of 1917, did not con-

stitute a crime subjecting the defendant to the penalties of Section 1275 of the Penal Law of the State of New York, which latter law was enacted prior to the enactment of said Chapter 535 of the Laws of 1917, for the reason that said Act is repugnant to and in violation of said provisions of the Constitution of the United States and of the State of New York, and therefore being null and void, and the defendant should therefore be acquitted of the foregoing alleged charge made against him.

"I, therefore, upon all the foregoing grounds move that the Court render a judgment acquitting the defendant of the charge and directing his release from custody." (fols. 995-997.)

The trial court denied said motion made on behalf of the plaintiff in error to discharge him on all the grounds stated, to which an exception was taken on each of the grounds stated in the motion to discharge the plaintiff in error and the trial court stated "My decision in this case is that the constitutionality of the law should be sustained, that is, that the legislature in passing this statute was within the proper exercise of the police powers of the state" and he found the defendant guilty of the offense charged and imposed a fine of twenty dollars upon him (fols. 1003-1005, 107-112), to which decision and judgment of the trial court exceptions were taken on all the grounds hereinbefore stated (fols. 1002-1006).

From that decision and judgment of conviction the plaintiff in error made application for right to appeal to the County Court of Erie County,

having jurisdiction thereof, which appeal was allowed by the Erie County Judge (fols. 21-70 and especially 36-43 and 48-53) in which application were set forth among other grounds the allegation that Chapter 535 of the Laws of 1917 is repugnant to and in violation of Section 1 of Article 14 of the Amendments to the Constitution of the United States (fols. 36-42) and that said chapter is also repugnant to and violative of part of Section 10 of Article 1 of the Constitution of the United States (fols. 48-53) and that the trial court committed error in denying defendant's motion at the conclusion of the testimony that he be acquitted of the offense charged against him and be discharged from custody on the several grounds which were fully set forth in said motion for his said discharge (fols. 52-53, 970-1003). Said appeal was argued before the County Court of Erie County and the judgment of conviction of the plaintiff in error was affirmed by an order of that court made on the 26th day of March, 1919, (fols. 71-75). At the time of the affirmance of said judgment the County Judge of Erie County handed down his opinion set forth in folios 76-86.

That on July 25th, 1919, the defendant, now plaintiff in error, appealed from said judgment of the Erie County Court, New York, affirming said conviction of defendant, to the Appellate Division of the Supreme Court in and for the Fourth Department, the court having jurisdiction of such appeals (fols. 13-18).

The record on such appeal herein as settled and ordered filed by the County Judge of Erie County, from which County Court the appeal in this case was taken to the Appellate Division of the Supreme Court in the Fourth Department, contained the Notice of Appeal, Judgment Roll including the pleadings, application and allowance of appeal from the City Court of Buffalo to said County Court of Erie County and all the evidence on the trial in the City Court of Buffalo by question and answer, the rulings on the trial of the City Court of Buffalo and the exceptions of all the parties to the record and all other proceedings had in said action in the City Court of Buffalo and in the County Court of Erie County, New York, and it appearing to said Judge that a proper presentation of this cause for review so requires, he directed the evidence and exhibits to be stated in full as was done in said record on appeal (fols. 1036-1038). In such rulings the trial court held that the provisions of Chapter 535 of the New York Laws of 1917 were not repugnant to nor violative either of section 1 of Article 14 of the Amendments of the Constitution of the United States or of section 10 of article 1 of the Constitution of the United States (fols. 985-990) but that said chapter was constitutional (fol. 1004). The court refused to discharge the defendant and convicted him of the violation of the provisions of said statute and imposed a fine of twenty dollars on plaintiff in error (fols. 1005-1006, 107-112). There were contained in said settled record in this criminal case, pursuant to the practice in the courts of New York, all such rul-

ings of the trial court and defendant's exceptions thereto and the judgment of said court, also duly excepted thereto, holding the defendant guilty of violating the provisions of Chapter 535 of the New York Laws of 1917 and imposing a fine upon him, notwithstanding his plea that said statute was null and void as he alleged on account of its provisions being repugnant to and in violation of Section 1 of Article 14 of the Amendments of the Constitution of the United States and also of Section 10 of Article 1 of the Constitution of the United States. All such rulings and said judgment of the trial court in conformity to the judicial procedure of the State of New York were reviewed, considered and affirmed by the County Court of Erie County, New York (fols. 71-75), by the Appellate Division of the Supreme Court in and for the Fourth Department (fols. 1051-1060) and by the Court of Appeals, the highest Court of Law and Equity of New York (fols. 1082-1088, pages ii-iii).

The printed record on appeal in this case from folio 21 to folio 1040, containing defendant's affidavit on appeal (folios 26-66), his answer (fols. 114-133), his motion for acquittal (fols. 970-998) and his exceptions to the rulings and judgment of the Court (fols. 1003-1006) and all other motions, exceptions to rulings and to the judgment of conviction and all other proceedings had upon said trial was before all said appellate courts. Said Chapter 535 of the New York Laws of 1917

was held not to be repugnant to nor violative either of Section 1 of Article 14 of the Amendments of the Constitution of the United States nor of Section 10 of Article 1 of the Constitution of the United States and by said court it was therefore held that said statute was not null and void and the conviction of the plaintiff in error was affirmed by all said appellate courts adjudging him guilty of the violation of its provisions, notwithstanding his said plea interposed and argued in the trial and in all said appellate courts (fols. 26-66, 114-133, 970-1006, 69, 13-18, 1082-1089) that said chapter 535 of the New York laws of 1917 was repugnant to and violative of said provisions of the Fourteenth Amendment and Article one of the Constitution of the United States and was therefore null and void and that the judgment of conviction of the plaintiff in error under said statute should be reversed and the plaintiff in error discharged.

Although no opinions were handed down by the Appellate Division of the Supreme Court nor by the Court of Appeals, giving their reasons for affirming said judgment of conviction, it was absolutely necessary for such courts to deny plaintiff in error's plea and argument that said Chapter 535 of the New York Laws of 1917 was repugnant to and violative of each of said sections of said articles of the Constitution of the United States and also to hold that said statute was not null and void, in order to uphold and affirm the judgment of conviction of plaintiff in error under said New York statute, as was done. As stated by

Mr. Justice Lurton in Seaboard A. L. R. Co. v. Duvall, 225 U. S. 487 should be done, the record in this case shows that there was necessarily present a definite issue as to the construction of said Legislative Act of the State of New York as to whether or not said act was repugnant to or in violation of Section 1 of Article 14 of the Amendments of the Constitution of the United States or repugnant to or in violation of Section 1 of Article 10 of the Constitution of the United States so directly involved that the Court could not have given the judgment it did without deciding that question against the plea of the plaintiff in error. See cases cited therein.

The record of the state court in this case discloses that the right so set up by the plaintiff in error and claimed by him was denied or that such was the necessary effect in law of the judgment of the Court of Appeals and of the other courts of the State of New York. Had such State statute been declared null and void on account of its repugnancy to Section 1 of Article 14 of the Amendments of the Constitution of the United States or of Section 10 of Article 1 of the Constitution of the United States, as urged by the plaintiff in error in all the New York courts, then there would and could have been no valid judgment of conviction against him.

The plaintiff in error contends that in the enforcement of the provisions of said Chapter 535 of the New York Laws of 1917 in pursuance of the judgment of the several courts of New York,

including the Court of Appeals, the highest court of the State, his privileges and immunities have been abridged and he has been deprived of liberty and property without due process of law and has been denied the equal protection of the laws contrary to the inhibitions contained in Section 1 of Article 14 of the Amendments to the Constitution of the United States, which inhibitions were set forth and urged in the several proceedings in the state courts, including the Court of Appeals, the highest court of the State of New York, against the validity of said state statute (fols. 36-43, 118-124, 978-985, 995-998) and that also his contract of employment of Anna Schmitt had been impaired contrary to the inhibition contained in Section 10 of Article 1 of the Constitution of the United States, which inhibition was set forth and urged in the several proceedings in the state courts, including the Court of Appeals, the highest court of the State of New York, against the validity of said state statute (fols. 48-53, 129-131, 985-990, 995-998).

And said decision of the Court of Appeals denied the title, right, privilege or immunity, especially set up and claimed by plaintiff in error under said clauses of the Constitution of the United States, which is the necessary effect in law of such judgment of conviction affirmed by the highest court in the state.

The assignment of errors printed in the record at pages vi-x in this case was filed in the office

of the City Court of Buffalo, New York, on November 11th, 1922, and a copy thereof submitted to the Chief Judge of the Court of Appeals with the petition of the plaintiff in error for Writ of Error.

The petition of plaintiff in error (pages 222-232) dated November 11th, 1922, to Honorable Frank H. Hiscock, Chief Judge of the Court of Appeals of the State of New York for Writ of Error to the City Court of Buffalo from the Supreme Court of the United States to review the judgment of said Court of Appeals of New York, was also filed on that day in the office of the Clerk of the City Court of Buffalo, New York, and an order was made by said Chief Judge of the Court of Appeals allowing said Writ of Error (page 233) and said Writ of Error issued on the 21st day of November, 1922 (pages 233-234) and a copy thereof and the citation were served on the attorney for the defendant in error on November 24th, 1922 (page 235).

The printed record on appeal including all the proceedings in the Court of Appeals of the State of New York and a true and complete transcript of the remittitur of said Court of Appeals to the City Court of Buffalo in said case and a true and complete transcript of the judgment of the City Court of Buffalo entered upon said remittitur then on file in the office of the Clerk of the City Court of Buffalo, duly authenticated by the Chief Clerk thereof, and the assignment of errors in said case, the prayer for reversal of judgment

and the original citation to the adverse party with proof of service thereof, all attached to said Writ of Error and embodied in the printed record in this case and also the petition for said Writ of Error and copy of the bond approved on the granting of said Writ of Error and the order allowing said Writ of Error from the Supreme Court of the United States to the City Court of Buffalo and the original citation on the Writ of Error defendant in error and the certificate of the Clerk of the City Court of Buffalo as to the lodgment with him as such Clerk of the original and copy of other papers transmitted, were duly returned by the Clerk of the City Court of Buffalo in obedience to the mandate of said Writ of Error on the 18th day of December, 1922, to the Clerk of the Supreme Court of the United States within thirty days from November 21st, 1922, the date of the granting of said Writ of Error (pages i-ii-iii) (pages 233-234). They were sent by express and the charges prepaid thereon and a leter of transmittal was dated and forwarded on the 18th day of December, 1922, from the Chief Clerk of the City Court of Buffalo to the Clerk of the Supreme Court of the United States at his address at the Capitol, Washington, D. C., which letter of transmittal contained the names of the attorney for the plaintiff in error and the name of the District Attorney of Erie County, together with their office and postoffice addresses (page 1). The attorney for the plaintiff in error also forwarded on the 18th day of December, 1922, a letter authorizing the clerk to enter his appearance as attorney for the plain-

tiff in error in said case giving his office and post office address and inclosed therein a certified check to pay the Clerk's fees and to apply toward the printing of the additional papers so transmitted to form a part of said record in this case.

The service of said Writ of Error and citation on the attorney for the defendant in error on November 24th, 1922 (page 235), and a lodgment of a copy of said Writ of Error in the office of the Clerk of the City Court of Buffalo on November 24th, 1922, such service and lodgment being before the return day, were good and sufficient. Wood v. Lide, 4 Cranch, 180. Writ of Error will not be quashed, though the return thereto be not filed with the Clerk of the Supreme Court before the return day. Martin Pickett's Heirs v. Legerwood, *et al*, 7 Peters, 144, 147. The Supreme Court may allow the original Writ of Error if served before the return day together with a transcript of the record duly certified to be filed with the clerk on any day during the term in which the return day falls. Mussina v. Cavazos, 6 Wallace, 355-363. That was done in this case. The return to the Writ of Error was transmitted to the clerk of the Supreme Court of the United States by the chief clerk of the City Court of Buffalo on December 18, 1922 (pages i & ii).

A transcript of the printed record used upon the hearing in the Court of Appeals of New York and City Court of Buffalo was certified by the chief clerk thereof and used as authorized by the

Act of Congress of February 13, 1911, in the preparation and as part of the printed record in this case in the Supreme Court of the United States.

This is a *case to test the validity* of the state statute limiting the hours of employment of thousands of females in restaurants in cities of the first and second class in the State of New York and for that reason it was necessary to include in the record all the proceedings in the State Courts and the facts to meet the requirements of the Supreme Court, (Bunting v. Oregon, 243 U. S. 426 and Adkins, *et al.*, v. Children's Hospital of the District of Columbia, 261 U. S. 525) and also to present the facts quite fully in this brief.

FACTS.

The plaintiff in error was proprietor of a restaurant known as the Rosticceria at 635 Main Street, Buffalo, New York (fol. 694).

During the year 1917 and on or about the 13th day of December, 1917, an information was filed in the City Court of Buffalo, New York, charging the plaintiff in error with the violation of and failure to comply with the provisions of Section 161 of Article 12 of an act of the legislature of the State of New York, entitled "An Act relating to labor," constituting Chapter 31 of the Consolidated Laws, being Chapter 36 of the Laws of 1909 as amended (by Chapter 535 of the Laws of 1917) in that he as a partner in the restaurant known as T. R. & C. restaurant at 635 Main Street City of Buffalo, County of Erie, New York, employed a woman to work in said restaurant after

ten P. M. to wit: 11:03 P. M. (fols. 88-94); that a warrant for the arrest of said plaintiff in error was issued on the 14th day of December, 1917 (fols. 96-99), charging him with the violation of Chapter 36 of the Laws of 1909 as aforesaid (fols. 88-95). The act alleged to have been violated is an amendment to the Labor Law in relation to the hours of labor of women in restaurants enacted by the legislature of New York on May 17, 1917, and took effect on October 1st, 1917. Said act is quoted in its entirety in the printed record at folios 100 to 106. The specific portion thereof inhibiting the employment of women in restaurants in cities of the first and second class before six o'clock in the morning or after ten o'clock in the evening of any day—the only portion of said act the plaintiff in error is alleged to have violated—being a new subdivision of Section 161 of the New York State Labor Law—reads as follows:

> "3. In cities of the first and second class no female over the age of sixteen years shall be employed, permitted or suffered to work in or in connection with any restaurant more than six days or fifty-four hours in any one week, or more than nine hours in any one day, or before six o'clock in the morning or after ten o'clock in the evening of any day. This subdivision shall, however, not apply to females employed in restaurants as singers and performers of any kind, or as attendants in ladies' cloak rooms and parlors, nor shall it apply to females employed in or in connection with the dining rooms and kitchens of, hotels or in connection with lunch rooms or restaurants conducted by employers solely for the benefit of their own employees" (fols. 103-106).

On being arrested the defendant, plaintiff in error in this court, was arraigned on January 29th, 1918 in the City Court of Buffalo on said charge and pleaded not guilty (fol. 110) and filed a formal answer to the allegations contained in said Information (fols. 107-133, 88-95).

The trial of the plaintiff in error was commenced on January 29th, 1918 in the City Court of Buffalo before the Honorable Albert A. Hartzell, a Judge thereof. There appeared for the People of the State of New York, Frederick H. Cunningham, Esq., first Assistant Counsel of the State Labor Department and for the defendant there appeared Henry W. Hill. The trial continued at various dates from January 29th, 1918, to and including October 15th, 1918, (fols. 134-1031).

The case was made a state test case to determine whether or not said Chapter 535 of the New York Laws of 1917 amending Section 161 of the Labor Law of the State of New York prohibiting the employment of females in restaurants in cities of the first and second class and not elsewhere, before six o'clock in the morning and after ten o'clock in the evening of any day, the only question involved in this appeal, is repugnant to and violative of Section 1 of Article 14 of the Amendments of the Constitution of the United State and also of Section 10 of Article 1 of the Constitution of the United States on the ground that said legislative act is

discriminatory, obnoxious, class legislation inhibited by said sections of the Constitution of the United States in "that the State of New York by such legislation has abridged the privileges and immunities of citizens of the United States and deprived them of their liberty and property without due process of law and denied to such citizens within its jurisdiction the equal protection of the laws by unjustly discriminating by the different classes of its citizens, namely, between females employed in restaurants in cities of the first and second class as distinguished from females employed in restaurants in all other parts of the state outside of the cities of the first and second class and also as distinguished from females employed in restaurants as singers and performers of any kind and as attendants in ladies' cloak rooms and parlors and females employed in dining rooms and kitchens of hotels and in lunch rooms or restaurants conducted by employers for the benefit of their employees, which females so employed may work any and all hours of night or day without limit" (fols. 118-124) and also that the provisions of said Chapter 535 of the Laws of 1917 are repugnant to and violative of that part of Section 10 of Article 1 of the Constitution of the United States which reads as follows:

> "No State shall pass any law impairing the obligation of contracts"

in that said provisions of said chapter prohibit the employment of females in restaurants in cities of the first and second class before six o'clock in the morning and after ten o'clock in

the evening of any day and thereby deprive citizens of their right to contract with each other, which statutory provisions prohibited the continuance and completion of the contract of employment existing between the plaintiff in error and said Anna Schmitt, as established on the trial (fols. 129-131, 166-170, 184-199, 205). Plaintiff in error did not deny such employment.

At the conclusion of the people's case, counsel for the plaintiff in error moved that the defendant be discharged on the ground that the people failed to make out a case against the defendant for the reasons set forth in his answer, (fols. 114-123), which motion was denied by the court and an exception taken by the defendant, (fols. 205-208). At the conclusion of the trial, he also moved the court to acquit the defendant on the grounds stated and duly excepted to the court's refusal so to do (fols. 970-1006).

In this case those clauses in said statute limiting the employment of females in restaurants to not more than six days or fifty-four hours in any one week or to not more than nine hours in any one day are not drawn in question (fols. 104-105).

It was established by preponderance of evidance on the trial that the employment of Anna Schmitt of Buffalo, New York, on the 10th day of November 1917, after ten o'clock at night was in pursuance of a contract existing between said

Anna Schmitt and the plaintiff in error then in force and such employment was entirely voluntary on the part of said Anna Schmitt and was not harmful to her but healthful (fols. 174-208, 971-972).

It was established by a preponderance of evidence on the trial that the restaurant kept by the plaintiff in error at 635 Main Street, Buffalo, New York, was subject to the inspection of and in fact was inspected by the Health Department of the City of Buffalo having supervision thereof and was found to be in a sanitary and hygienic condition on the 10th day of November, 1917 and prior thereto (fols. 256-306, 1008-1031).

It was also established on said trial by a preponderance of evidence that restaurants in the cities of the first and second class are subject to the inspection of the state and municipal authorities and are maintained in a sanitary and hygienic condition (fols. 220, 259-300, 465, 974-975).

It was also established by a preponderance of evidence on said trial that the employment of females before six o'clock in the morning and after ten o'clock in the evening in restaurants in cities of the first and second class in the State of New York was not and is not harmful but is an healthful employment (fols. 300, 815-816).

It was also established on said trial by a preponderance of evidence that the employment of females in restaurants in cities of the first and

second class in the State of New York before six o'clock in the morning and after ten o'clock in the evening prior to November 10th, 1917, and subsequent thereto was not detrimental to the morals of such employees nor to the people of cities of the first and second class in the State of New York (fols. 976-977).

The following are excerpts of the evidence in support of defendant's plea on the trial and in the appellate courts of New York. Such evidence was lacking, the court said, in Bunting v. Oregon, 243 U. S. 436. Such evidence shows such service of females in restaurants in cities of the first and second class was healthful and that the conditions of such employment did not justify the legislature in enacting the legislation in question, arbitrarily prohibiting their employment before 6 o'clock in the morning and after ten o'clock in the evening in restaurants in cities of the first and second class under the State's police powers as a Labor law (fols. 100-106) or otherwise. The facts in this case are recited to support a conclusion contrary to that reached by the legislature in enacting chapter 535 of the New York Laws of 1917. Mr. Justice Sutherland in Adkins, *et al.* v. Children's Hospital of the District of Columbia, decided on April 9th, 1923, said in effect that the Supreme Court in Bunting v. Oregon, 243 U. S. 426, accepted the judgment of the Legislature and Supreme Court of Oregon as to conditions necessary to preserve the health of employees in certain industries *in the absence of facts to support the contrary con-*

clusion. In the record of this case, the facts do appear and they support the conclusion contrary to that reached by the legislatures in enacting said chapter 535 of the Laws of 1917 and contrary to that held by the Court of Appeals and other courts of New York in sustaining the conviction of the plaintiff in error of the violation of the provisions of said state statute.

The plaintiff in error is a citizen of the United States (folio 694) and was one of the proprietors of the restaurant at 635 Main Street (folio 694) in the City of Buffalo (folio 140) on November 10, 1917, (folio 139), and at the time employed in that restaurant one Anna Schmitt as a waitress (folios 153, 167-170).

He was charged with the violation of Section 161 of the Labor Law of New York, as amended by Chapter 535 of the Laws of 1917, (folios 100-106) in that he did employ and permit one Anna Schmitt a woman to work in his restaurant in the City of Buffalo, a city of the first class, as a waitress after 10 P. M. to-wit, 11:03 P. M., on November 10th, 1917, (folios 90-94). Anna Schmitt was a married woman, 28 years old (folio 166) and was a citizen of the United States (folio 695) and resided in the City of Buffalo, New York, (folio 165). Her husband was in the first draft (folio 174) and she went out to obtain work for she had no other means of support (folios 174-180, 188). She was engaged from 6 P. M., until 12 o'clock midnight (folios 179-185).

She contracted therefor with the consent of her husband (folios 186-187). Her husband was called to the service of his country during the trial on January, 1918 (folios 135, 187-188). The work was agreeable to her (folio 189), not fatiguing (folio 190) and it was easier for her to work in the restaurant than to do housework (folios 190-192). In addition to her regular compensation she received tips (fols. 192, 549-550) and she received most from that source from 10 P. M. to 12 midnight, when first-class people, business men and ladies came in from the theatres (folios 193-195, 442, 548). The Radice restaurant was cleanly and sanitary, (folio 195) and the employment therein healthful (folios 215-218, 264-265, 270, 280, 281, 284, 402-403, 455, 548, 555-559, 642-645, 667, 705, 715, 721, 735, 740, 815-819, 835-844-857, 864, 871, 882-886, 1008-1029).

The Radice restaurant as well as all other restaurants in cities of the first and second class are subject to such inspection and supervision as are specifically prescribed by Sections 343-a and 343-b of the Public Health Law of New York as well as by the provisions of the health laws and ordinances of the municipalities, wherein they are severally located. They are systematically and thoroughly regulated under State law and municipal ordinances (folios 212-217, 260-290, 465, 582, 1008-1031). That insures cleanliness, sanitary surroundings and healthfulness not so specifically prescribed for mercantile establishments, factories and other industries and has an impor-

tant bearing on the healthfulness of the employment of females in these various institutions (folios 259-271). At the time it was almost impossible to obtain competent male help for restaurant service (folios 312, 347, 349, 396-400, 410, 431-435, 551-552, 602-611, 617, 621, 634, 663, 682, 758-763). Such restaurant service was healthful. (fol. 198).

Restaurants were necessary at night as well as during the day to serve those engaged in night work, travelling and in various forms of service. (fols. 578, 638-639). About one third of restaurant business is done between 7 P. M. and 7 A. M. (fols. 655-658).

Such service is lighter and easier than housework (folios 191, 218), easier and cleaner work than kitchen work (folios 381-384). It is healthful because there is exercise in walking (folios 382-383). Waitress work is easier than housework (folio 384). The night service of a waitress is preferred by some to the day service (folios 815-819, 824, 836-840) and is much easier (folio 874). Restaurant work is less tiresome than work in a factory (folio 857). Both night and day work in a restaurant is preferable to day work in a factory (folios 860-862). The work in a factory was found to be much heavier and more tiresome and onerous than anything in a restaurant either day or night (folios 863-864). Service in a factory is more tiresome than in a restaurant (folio 883) and night work in a restaurant is not unhealthy (folio 885).

Some waitresses in restaurants have no preference as to night or day work (folio 885). Service in factories is more tiresome than it is in restaurants (folios 895-896). Work in mercantile establishments is more injurious to women than work in restaurants (folios 517-520, 530-531, 642-644). The employees in mercantile establishments are active most of the time (folio 838) while in restaurants waitresses are active only at meal time (folios 179-184, 218, 385, 534-536, 539, 563-565, 631, 734, 813, 818).

Dr. Henry R. Hopkins, from long experience as a physician and surgeon testified that it was his judgment that the strain on mercantile employees was greater than upon a person employed in a restaurant (folio 538).

William J. Statler, Vice President and Treasurer of the Statler Hotel Company, one of the largest in the country (fol. 729) after seventeen years' experience with the service of females as waitresses, those in culinary service and attendants in restaurants and hotels, testified as to the comparative healthfulness of females so employed in restaurants and hotels, that there was absolutely no difference in their healthfulness. (fols. 699-705, 717-721).

Waitresses sit down and rest when they have no orders (folios 385). The employment of women in hotels is no more healthful than is their employment in restaurants in cities of the first and second class (folios 676-684-690-729-721-745,

Chapter 535 of the Laws of 1917) and still the statute permits the employment of females in dining rooms and kitchens of hotels at all hours of the night and also females may be employed as singers and performers of any kind and attendants in ladies' cloak rooms and parlors of restaurants in cities of the first and second class and as waitresses in cities of the third class and in villages at all hours of the night (folios 104-106). That is unjust discriminatory class legislation of the most pronounced character and violative of the provisions of Federal constitutions fully set forth in defendant's answer at folios 114-132 of the record.

Anna Schmitt was under contract to work for defendant as a waitress in his restaurant, when Chapter 535 of the Laws of 1917 took effect October 1st, 1917, and was notified that she could not continue to work after ten o'clock (folios 105-106, 185-188) and that statute was enforced against said defendant by his arrest upon a charge of the violation of its provisions (folio 88-94, 96-99) and he was adjudged guilty of such violation on October 15th, 1918, and fined twenty dollars by the City Court of Buffalo (folios 1005-1006) from which judgment of conviction, defendant appealed to the County Court of Erie County, New York, the court having jurisdiction to hear said appeal (folios 21-69) where such judgment of conviction was affirmed on March 26th, 1919 (folios 71-75), and thereafter said defendant appealed from said judgment of affirmance of the

County Court of Erie County to the Appellate Division of the Supreme Court of the State of New York in and for the Fourth Department (folios 13-18).

The enforcement of the provisions of that statute prevented the continuance of that employment of Anna Schmitt, by the plaintiff in error after ten o'clock at night in his said restaurant, notwithstanding the existence of said contract and employment between her and the plaintiff in error, who contended that said provisions of said chapter 535 of the Laws of 1917, are violative of Section 10 of Article 1 of the Constitution of the United States (folios 125-133).

The injustice of such denial to citizens of this country of the right and opportunity to earn a living by pursuing a perfectly normal and healthful occupation is clearly pointed out by Mr. Justice Hughes in the recent case of Truax v. Raich 239 U. S. 41.

In speaking of an Arizona Statute, prohibiting the employment of aliens in restaurants, he said "it requires no argument to show that the right to work for a living in the common occupation of the community is of the very essence of the personal freedom and opportunity that it was the purpose of the (14th) Amendment to secure. It is sought to justify this act as an exercise of the power of the state to make reasonable classifications in legislating to promote the health, safety, morals and welfare of those within its jurisdic-

tion. But this admitted authority with the broad range of legislative discretion, that it implies, does not go so far as to make it possible for the state to deny to lawful inhabitants, because of race nationality, the ordinary means of earning a livelihood."

The work of women as waitresses in restaurants is easier than housework (folio 384) and there is nothing in such employment or conditions surrounding waitresses or females employed in restaurants that is deleterious to their health. Dr. Hopkins, one of the widest and longest experienced physicians in the State (folios 448-450), testified that "there was not the slightest (thing) in the world" deleterious to their health in such employment (folios 455-456). He was familiar with the conditions also in Albany, Troy and other cities (folios 453-455) as he was President of the Medical Society of the State of New York in 1903 (folio 450) and frequently visited restaurants in other cities, outside of Buffalo (folios 455, 464). Dr. Hopkins further testified that the employment of females in restaurants and hotels is a perfectly normal occupation and "it tends to prolong life and make people happy." (folios 463-464); that there is no other occupation more likely to produce healthfulness and longevity, except work on a farm (folio 463). Dr. Hopkins further testified (folios 466-467) that he would say from the information he had derived from long experience from his acquaintance with the employment of females in restaurants that it is

as wholesome a vocation as any employment possible in the city, since it tends to promote longevity and those in that occupation live as long as they do in any other occupation in the world. Dr. Hopkins was asked the following question (folios 477-479):

> Q. Doctor, from your wide experience as a practicing physician, covering a period of fifty years or more, and being familiar with the conduct, hygienic and sanitary conditions of restaurants and the duties devolving upon female employees in restaurants is there anything in any or all of these conditions so inimical to the health of female employees as to necessitate or require the limitation imposed by the Legislature in this Act? A. There is not.

On Cross examination Dr. Hopkins testified (folio 480) he had been familiar with the employment of women at night and had made a general study of the employment of women at night. He had studied the question of night employment upon the health, both, of men and of women and during his fifty years' practice, he had had hundreds of patients, employees in stores, in restaurants, in hotels and private families (folios 481-483).

Employment is very beneficial: it is helpful and prolongs life (folio 489).

On further cross examination the following question was propounded to Dr. Hopkins:

> Q. Did I understand you to say doctor in answer to Senator Hill's question, that employment as waitress at night tends to pro-

long the life of the employee? A. I so said, because it is employment. That is what she must have to live (folio 495).

Dr. Hopkins further testified on cross examination that familiarity with restaurants in Western New York is larger than it was in Eastern New York, but that he had had an extended experience with restaurants in New York City for the last fifty years and visited them in New York two or three days when in that city (folios 499-500).

Q. Would you make any distinction from your observation between the work of a woman as waitress in a restaurant and the work that was performed in a mercantile establishment behind the counter? A. I would discriminate against working in a mercantile establishment.

Q. You think working in a store more injurious? A. Yes. There are a lot more objections in a mercantile establishment, which you never find in a restaurant (folios 505-507).

Q. Your testimony in your judgment as a physician is that night work for women is not deleterious to their health? A. It is not (folios 514-515).

Dr. Hopkins testified further.

Re-direct examination.

Q. Isn't it very rare that any person loses their health, either by washing dishes, cooking meals or serving guests in restaurants? A. It is my experience (folio 520).

Q. Do you know of any condition surrounding restaurants in cities of the first and second class that distinguish them at all from

those in cities of the third class? A. No.

Q. That makes them any more injurious to the health of their employees? A. I do not.

Q. Doctor, do you know of any occupation a woman can engage in aside from purely domestic service in her own house that is less injurious to their health in cities than the employment as waitresses, dishwashers, cook or performing other services in restaurants? A. I do not (folios 523-525).

Q. Doctor, a woman in a mercantile establishment is usually confined in a limited area and her movements are more or less circumscribed? A. Yes.

Q. She has not the freedom of action or movement that she has in a restaurant? A. No.

Q. In restaurants they serve a meal at a table and then there is a period of inactivity where they sit down and rest? A. Yes (folios 533, 534, 535).

Q. As a matter of fact, a mercantile employee is active most of the time? A. Yes.

Q. The strain on a mercantile employee is greater than it is upon a person employed in an ordinary restaurant? A. That is my judgment.

Q. Isn't it a fact from your experience and judgment that there is no occupation less deleterious or injurious to the health than that of females in restaurants? A. That is a fact (folios 537-538).

Mr. Edward H. Eddy, who had been engaged in the restaurant business 17 years in Buffalo (folio 615) and had run four restaurants in Buffalo and one in Rochester (folio 615) testified as follows (folios 641-647):

Q. What do you say as to the healthfulness of the employment of women in restau-

rants? A. My experience has been that it has been very healthful. My judgment is that it is much more so than department stores employment, for the reason that in department stores the girls are required to stand behind a little counter, possibly for a long time in the same position, whereas a young lady in a restaurant is moving around about the place all the time. If she wants a cup of coffee, she goes and gets it. She is never hungry as she always has plenty to eat.

Q. You spoke about one female employee being with you for ten years? A. Yes.

Q. I suppose you have had them for various periods? A. Yes. All the way from one day to ten years. Some I have had for five years and one young woman has been with me for ten years.

Q. What did you find as to her condition of health—the one you have had with you a long time? A. The one who worked for me the longest is the one who had charge of the place at No. 12 Exchange Street. She is down there now.

Q. Were they subject to sick spells during this term of employment? A. Nothing unusual. I have had some working for me for five, seven and eight years. They left me to get married. They met some desirable man and got married. One young lady who worked for me eight years came in to my Washington Street place the other day to talk things over. She told me of her present condition. She said: "I have got three small boys." She appeared to be perfectly healthy after working eight years (folios 642-646).

On cross examination, Mr. Eddy testified as follows (folios 666-668):

Q. So in expressing the opinion you gave as to the health of women who worked for you, that was simply your own opinion as a layman? A. It is my opinion formed from my seventeen years' experience. I have had a number of women work for me both during the day and during the night, were just as healthy, as I observed, as those who worked for me during the day. I didn't see any difference.

Q. You are not an expert in the medical line? A. No.

Q. This is simply the result of your observation? A. Yes, in my seventeen years' experience.

John D. Young had been engaged in the restaurant business for seven or eight years (folio 541), employed girls in his restaurant, cooks, dishwashers, waitresses and in the kitchen all that time (folios 542-543). The hours of employment were from six in the morning until 9:30 for breakfast, 11:30 to 2 P. M. for dinner and from 5 P. M., to 8 P. M., for the evening meal (folios 545-546). He testified as follows (folios 547-552, 555):

Q. Now why is it that girls rather work in the evening than during the day in restaurant? A. Because after nine or ten o'clock the theaters, lectures and other places of entertainment let out and people are passing back to their homes or elsewhere and drop in to get something to eat. The girls receive the biggest tips from these people.

Q. In the first place for their overtime work they get extra pay? A. Yes.

Q. At these particular hours when they are employed for this overtime the tips are larger, are they not? A. They are.

Q. So a girl will make more pay if she is permitted to work her nine hours up to

eleven o'clock or half-past at night if her hours are from six to seven at night? A. Yes.

Q. In fact they prefer to work later? A. Yes, sir. I have frequently suggested employing extra help but they say that they would prefer to work themselves.

Q. If this law was rigidly enforced do you think it would be possible to keep our restaurants open until eleven o'clock at night when our theaters close? A. I do not.

Q. Why? A. Because it would be impossible to secure competent help other than women, for that purpose. Men waiters are not as competent as girl waitresses.

Q. Has there been any difficulty in securing such employees for restaurants during the past few months? A. Yes. In instances where I have attempted to get men for extra work I have found it difficult. I could get men, such as they were, but not competent men in that line of work owing to the men having been taken in the draft. (folios 547-552, 555).

Q. From your experience as a proprietor of a restaurant have you noticed anything in the duties devolving upon your female employees that produce sickness or ill health? A. No, I never have (folio 555).

John C. Flynn testified (folios 689-690):

Q. From your experience do you consider the employment of females in hotels any more healthful than the employment of females in restaurants? A. No, sir.

Q. Isn't it a fact that it is more burdensome and more difficult for women employed in hotels to perform their duties than it is for them in restaurants? A. Yes.

William J. Statler testified as follows (folio 705):

Q. What has been the tenure of service of waitresses in your employ during these seventeen years? A. Perhaps I could best answer that by saying that we have got a number of girls who started in with us during the Pan-American. We have still got them with us. We hardly ever lose any of our girls except through death or marriage.

Q. In other words the occupation has been so healthful that no questions arose as to its being otherwise? A. No. The best answer is that they stay. They stay with us year in and year out (folios 714-715).

Q. Is there any reason that occurs to you why the employment of females in hotels is any more healthful than in restaurants? A. Absolutely not.

Q. How long have you been connected with the hotel? A. Since its inception in 1908 (folio 721).

Q. From your observation have you noticed anything that indicated unhealthfulness in the women who wait on tables in the hotels? A. No, sir. There is absolutely no difference. It is just as healthy for women as for men (folio 735).

Q. In all your experience you have never noticed anything about the service or employment of women in restaurants, whether they are in the dining-room or kitchen, that is unhealthy? A. Nothing (folio 740).

Q. Now, it is a fact, isn't it, that females will perform in restaurants in any line, year in and year out, more satisfactory service than boys or men? A. No question about it in my mind.

Q. That is practically in their line of duty? A. Yes. They naturally take to that line of work (folio 769).

Q. In your own line you find that the service is more satisfactory where rendered by females than by men? A. Yes.

Q. Isn't it a fact that employees in hotels are foreigners or young men just coming into the country and who want to get a foothold? A. Yes (folios 768-770).

Margaret Hook, who served as a waitress in Duffy's restaurant in Albany for two years and in the New York Central Station in Albany for two years (folios 807-810) and in McLeod's restaurant and in Mr. Flynn's restaurant, both in Buffalo, during last year (folios 811-814) thus having had five years' experience in night and day service, testified as follows (folios 815-819):

Q. Which of the two services do you like best? A. I think I like night service best.

Q. Why? A. It is easy and there is more money in it.

Q. How about your health? A. I cannot see that it makes any difference.

Q. You will have to answer definitely. What do you mean by that? A. I feel that I am just as well for night service as I am for day service.

Q. During the five years of such employment did you have your usual good health? A. I did.

Q. You enjoy good health, do you? A. I do.

Q. Was the service a healthful service so far as you are concerned? A. It was.

Q. During that time did you have any serious illness? A. No, sir.

Q. Due to your service? A. No, sir.

Q. Are there advantages in night service over day service that applies to waitresses? A. Except as I have stated. The service is easier and there is more money in it.

Q. Did you find that your employment at night interfered with your health? A. No.

Q. You took your rest during the day time? A. Yes.

Q. During all these years were you ill at all? A. Never.

Q. If this law were not in effect would you still prefer to work nights? A. Yes.

Q. You say that the work at night is not as heavy as it is during the day? A. Yes. And the tips are larger (folios 815-819).

On cross examination she testified that she weighed about 170 pounds (folio 849).

Hattie Chambers, who had worked as a waitress in Chicago (folio 830) and McLeod's on Exchange Street in Buffalo for 5 years and in the restaurant at the New York Central Station in Buffalo for sometime (folios 831-835) testified as follows (folios 835-840).

Q. What do you say as to your health during your occupation as a waitress nights in the hotel or restaurant? A. Not a bit of difference.

Q. You were as well when you worked nights as when you worked days? A. Just as well.

Q. Which of the two services do you prefer? A. Lots of ways I prefer nights.

Q. Why? A. You have all day to yourself. In the summer I prefer to work nights because it is so warm.

Q. When did you get your rest? A. Days. I slept in the morning and sometimes all day, depending on where I wanted to go.

Q. You were not deprived of your rest because you worked nights? A. No, not a bit.

Q. During your night services were you subject to sick spells? A. No, sir.

Q. Is the service in a restaurant as easy

and as healthful as it is in a hotel? A. Easier at night.

Q. In other words, restaurant service for females is as agreeable to health as any hotel service? A. Yes, sir, I think so.

Q. During all these years that you have been employed, have you noticed any difference so far as healthfulness is concerned between your work at night and your work during the day? A. Night work is easier.

Q. Would you as soon engage in night work as you would in day work? A. Yes, sir, always. In summer I prefer night work (folios 835-840).

On cross examination she testified that she weighed 160 pounds (folio 841).

May Griffith, who worked in a factory (folio 855) before working as a waitress in a restaurant (folio 856) from 7 o'clock at night until 7 o'clock in the morning (folio 853) testified as follows (folios 855-864, 870-872):

Q. Did you work in the factory before you worked for Mr. Eddy? A. Yes. I worked in the factory on the Terrace putting up fiber chairs.

Q. How long did you work there? A. I cannot tell you the exact date.

Q. You were so engaged on account of the death of your husband? A. Yes, sir.

Q. You went to work on account of his death and you first found employment in a factory? A. Yes, sir.

Q. Then you later found employment with Mr. Eddy A. Yes. I found the work too heavy in the factory.

Q. Was that day or night work? A. Day work.

Q. Were you more able to perform your

night work with Mr. Eddy than you were your day work in the factory? A. I certainly was.

Q. Which of the two occupations in your judgment is the less tiresome? A. Restaurant work is less tiresome.

Q. Since the closing of Mr. Eddy's place on Washington Street nights what have you been doing? A. I have been opening up Mr. Eddy's business at six in the morning. I have been cashier and have helped out as a waitress as well.

Q. You are still working for him in his restaurant? A. Yes, sir.

Q. From six in the morning until— A. From six until two.

Q. You have had three experiences, day work in the factory, night work in the restaurant and day work in the restaurant? A. Yes.

Q. Tell the Court which of these three kinds of work you consider the less injurious to health? A. Why, I just as leave work at night. I don't find any difference in the health. You have less work, of course, at night, and more pay.

Q. In other words, you don't find night work any more injurious than day work? A. No, sir.

Q. You find night and day work in the restaurant more preferable than day work in the factory? A. Yes.

Q. What did you do in the factory? A. Rubbing up chair seats and leveling them.

Q. What factory? A. Bison Fiber Company.

Q. You were there almost a year? A. Yes.

Q. Was the work in the factory more tiresome than it is in the restaurant? A. Yes. It is much heavier.

Q. More so than handling dishes and

trays? A. Yes.

Q. Or any other work that you were called upon to do in the restaurant? A. Yes.

Q. In other words, factory work was more tiresome and onerous than anything that you were called upon to do in the restaurant? A. Yes.

Q. Day or night? A. Yes. That was the reason I left the factory.

Q. Because you wanted to get an easier job? A. Yes. That was the only reason.

Q. You are still working for Mr. Eddy in his Washington Street restaurant? A. Yes.

Q. You are better now than you have been in the past twenty-five years? A. I am healthier now.

Q. You work every day? A. Since I started out to work.

Q. You have worked every day since you have been engaged with Mr. Eddy? A Yes; except I have one day during the week.

Q. You have had no interruption at all in your services? A. No.

Lillian Anderson, who worked 8 years in a factory (folio 877) and from January to August, 1917, worked nights in Mr. Eddy's restaurant in Buffalo (folios 878-880) testified as follows (folios 879-880, 881-886, 895-896):

Q. What were your hours there? A. From seven at night until seven in the morning.

Q. Your service was entirely night service? A. Yes.

Q. It lasted about eight months? A. Yes, sir.

Q. Before that you worked in a factory in Pennsylvania? A. Yes.

Q. Was your service in the factory day or night work? A. Day service.

Q. Some time in December you resumed work with Mr. Eddy? A. Yes.

Q. Have you been working with him since that time in day service? A. Yes.

Q. During your employment in night service for eight months state the condition of your health. A. My health was all right. I was perfectly well all the time.

Q. Was there anything in the service that was fatiguing? A. No, sir.

Q. Or tiresome to you? A. No, sir.

Q. What was your work nights during that time? A. Waitress.

Q. What did they require you to do? A. Serve customers; serve meals.

Q. How did that compare in your opinion as to healthfulness with your service in the factory? Which was the more tiresome? A. The factory.

Q. The service in the factory was more tiresome than your service in the restaurant nights? A. Yes.

Q. How does the service in restaurants nights compare with service in the restaurant during the day time, in your opinion? A. Well, I like that work as waitress.

Q. Coming down to the question of difference between the day and night service in the restaurant. Is there anything about night service that is more unhealthy? A. No, sir.

Q. Which would you prefer to do if you had your choice? A. I would do either.

Q. You have no preference A. No. I like night work just as well as I do day work.

Q. Were you as well during night service as you were during day service during all these months? A. Yes, sir (folios 879-886, 895-896).

On cross examination she testified that she weighed 143 pounds (folio 893).

On re-direct examination she testified (folio 895):

> Q. You say the service in the factory was more tiresome? A. Yes, sir.
>
> Q. Than it is in the restaurant? A. Yes, sir.
>
> Q. Is that the reason you came to be employed in a restaurant? A. Yes, sir.
>
> Q. Although the service you were doing in the factory was not what you really call heavy work for employees? A. Yes. We had a good deal of lifting to do there.
>
> Q. From your knowledge of factories you would rather work in a restaurant than in a factory? A. Yes (folio 896).

All of the employees who testified at the trial were the picture of health and testified that they were perfectly healthy.

The evidence of the People's only witness, Rosalie Bell, who gave up the practice of medicine three years before the trial (folio 904) and had not investigated the subject of the employment of women at night (folios 905-906) is merely opinion evidence (folio 908) of a prejudiced witness in the employment of the State (folio 905). Her evidence cannot overcome the great preponderance of evidence of defendant's witness to the contrary.

On cross examination she testified as follows (folios 936-937, 964-965):

> Q. There are no reasons occurring to you why females employed in restaurants should be discriminated against whereas in cases of other employment or employment of fe-

males in hotels there are no limitations imposed? A. I am not familiar with the subject at all, Senator.

Q. Nothing occurs to you why they should discriminate against girls who are trying to earn an honest livelihood by working in a restaurant while they allow girls to work in hotels all night? A. No, sir, I don't see any reason (folios 936-937).

Q. Women in New York are running street cars at night? A. Yes.

Q. In Brooklyn? A. Yes.

Q. They are in factories at night? A. I don't know.

Q. Don't you know that women are employed in factories in this city nights? A. I know in some places they are.

Q. And they are in the telephone service? A. Yes. I have had patients from that very class.

Q. This is an exclusion of women from the one service on earth they are best fitted by nature to perform? A. At present, yes (folios 964-965).

The foregoing excerpts of the testimony of experts, employers and employees might have been extended to include that of the employees of every restaurant in the cities of first and second class in the state and it would be of like tenor, showing that the employment of women in restaurants before six o'clock in the morning and after ten o'clock in the evening is perfectly healthful and therefore is not a proper subject for such legislation as that contained in Chapter 535 of the Laws of 1917.

Specifications of Errors.

Plaintiff in error relies upon the assignments of error (pages vi to x) raising the following questions of law:

First: That the Court of Appeals of the State of New York erred in holding that the provisions of subdivision 3 of Section 161 of the Labor Law of New York, enacted by Chapter 535 of the Laws of 1917, are not repugnant to nor in violation of Section 1 of Article 14 of the Amendments of the Constitution of the United States and in affirming the judgment of conviction of plaintiff in error for the violation of such provisions.

(Assignment I, page vi)

Second: That the court erred in holding that by the provisions of said act the plaintiff in error is not deprived of rights, privileges and immunities secured to other citizens by the Federal Constitution and the laws of the United States.

(Assignment II, page vi)

Third: The court erred in holding that by the provisions of said act the plaintiff in error is not deprived of liberty and property without due process of law.

(Assignment III, page vii)

Fourth: The court erred in holding that the provisions of said act do not deny to the plaintiff in error the equal protection of the laws.

(Assignment IV, page vii)

FIFTH: The court erred in holding that the said act and the authority exercised thereunder and thereby authorized to be exercised thereunder is within the police powers of the legislature of the State of New York.

(Assignment V, page vii)

SIXTH: The Court of Appeals erred in holding that the provisions of said subdivision 3 of Section 161 of the Labor Law of New York, enacted by Chapter 535 of the Laws of 1917 of the State of New York to be within the police powers of the State of New York.

(Assignment VI, page vii)

SEVENTH: The Court of Appeals erred in holding that the said provisions of said act do not unlawfully discriminate between those engaged in conducting as well as those employed in restaurants in cities of the first and second class and those engaged in conducting as well as those engaged in restaurants in all other cities and parts of the State of New York outside of cities of the first and second class and in also holding that said provisions of said act do not unlawfully discriminate between the several clases of females employed in restaurants of the first and second class.

(Assignment VII, pages vii-viii)

EIGHTH: The Court of Appeals erred in holding that the provisions of said act do not cast special burdens upon those engaged in conducting and upon those employed in restaurants in

cities of the first and second class in the State of New York.

(Assignment VIII, page viii)

NINTH: The Court of Appeals erred in holding that the provisions of said act do not deprive the plaintiff in error of the right to earn a livelihood in the pursuit of a lawful and harmless business and occupation and of the liberty of contract in reference to said business.

(Assignment IX, page viii)

TENTH: The Court of Appeals erred in holding that the provisions of said act are not in conflict with and in violation of the provisions of Section 10 of Article 1 of the Constitution of the United States in that said provisions prohibit the employment of females in restaurants in cities of the first and second class of the State of New York for more than nine hours in any one day or before six o'clock in the morning or after ten o'clock in the evening of any day and thereby deprive the plaintiff in error and citizens of the right to contract with each other for the pursuit of a lawful occupation and such statutory provisions also prohibit the continuance and completion of a contract of employment existing between the plaintiff in error and one Anna Smith, when said act by its terms took effect on October 1st, 1917, and the provisions of said act also prohibit the continuance and completion of all other contracts between the plaintiff in error and all other employees who contracted to perform such services in his said restaurant in Buffalo, which is a city

of the first class, before six o'clock in the morning and after ten o'clock in the evening of any day.

(Assignment X, page viii)

ELEVENTH: The Court of Appeals erred in affirming the judgment of the City Court of Buffalo which denied the motion of the plaintiff in error at the conclusion of the testimony that he be acquitted of the offense charged against him and be discharged from custody on the several grounds stated and particularly on the ground that said act of the State of New York is in conflict with and in violation of the provisions of Section 1 of the Fourteenth Amendment of the Constitution of the United States and also in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States.

(Assignment XI, page viii)

TWELFTH: The Court of Appeals erred in affirming the order and judgment of the Appellate Division of the Supreme Court for the Fourth Department of the State of New York, which affirmed the order and judgment of the County Court of Erie County, which affirmed the judgment of the City Court of Buffalo convicting the plaintiff in error of the violation of said act and imposing a fine upon him pursuant to the provisions of Section 1275 of the Penal Law of the State of New York.

(Assignment XII, page viii)

THIRTEENTH: The Court of Appeals erred in ordering judgment remanding the record and proceedings in this case to be remitted to the City Court of Buffalo there to be proceeded upon according to law.

(Assignment XIII, page viii)

FOURTEENTH: That the Appellate Division of the Supreme Court of the State of New York for the Fourth Department erred in holding that the provisions of said act were not in conflict with and in violation of Section 1 of the 14th Amendment of the Constitution of the United States for the reasons hereinbefore stated in paragraphs "First" to "Tenth" inclusive, which are herein referred to and made a part of this assignment of error.

(Assignment XIV, page ix)

FIFTEENTH: That the County Court of Erie County of the State of New York erred in holding that the provisions of said act were not in conflict with and in violation of Section 1 of the 14th Amendment of the Constitution of the United States for the reasons hereinbefore stated in paragraphs "First" to "Tenth" inclusive, which are herein referred to and made a part of this assignment of error.

(Assignment XV, page ix)

SIXTEENTH: The City Court of Buffalo in the State of New York erred in holding that the provisions of said act were not in conflict with and in violation of Section 1 of the 14th Amendment of the Constitution of the United States for the

reasons hereinbefore stated in paragraphs "First" to "Tenth" inclusive, which are herein referred to and made a part of this assignment of error.

(Assignment XVI, page ix)

SEVENTEENTH: That the Appellate Division of the Supreme Court of the State of New York for the Fourth Department erred in holding that the provisions of said act were not in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States for the reasons hereinbefore stated in paragraph "Tenth" hereof, which is herein referred to and made a part of this assignment of error.

(Assignment XVII, page ix)

EIGHTEENTH: That the County Court of Erie County of the State of New York erred in holding that the provisions of said act were not in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States for the reasons hereinbefore stated in paragraph "Tenth" hereof, which is herein referred to and made a part of this assignment of error.

(Assignment XVIII, page ix)

NINETEENTH: The City Court of Buffalo, New York, erred in holding that the provisions of said act were not in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States for the reasons hereinbefore stated in paragraph "Tenth" hereof, which is herein

referred to and made a part of this assignment of error.

(Assignment XIX, page ix)

TWENTIETH: The Appellate Division of the Supreme Court of the State of New York for the Fourth Department erred in affirming the judgment of the City Court of Buffalo which denied the motion of the plaintiff in error at the conclusion of the testimony that he be acquitted of the offense charged against him and be discharged from custody on the several grounds stated and particularly on the ground that said act of the State of New York is in conflict with and in violation of the provisions of Section 1 of the Fourteenth Amendment of the Constitution of the United States and also in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States.

(Assignment XX, page ix)

TWENTY-FIRST: The County Court of Erie County of the State of New York erred in affirming the judgment of the City Court of Buffalo which denied the motion of the plaintiff in error at the conclusion of the testimony that he be acquitted of the offense charged against him and be discharged from custody on the several grounds stated and particularly on the ground that said act of the State of New York is in conflict with and in violation of the provisions of Section 1 of the Fourteenth Amendment of the Constitution of the United States and also in conflict with and in violation of Section 10 of Article 1 of the Constitution of the United States.

(Assignment XXI, pages ix-x)

TWENTY-SECOND: The Appellate Division of the Supreme Court of the State of New York for the Fourth Department erred in affirming the judgment of the County Court of Erie County, which affirmed the judgment of the City Court of Buffalo convicting the plaintiff in error of the violation of said act and imposing a fine upon him pursuant to the provisions of Section 1275 of the Penal Law of the State of New York.

(Assignment XXII, page x)

TWENTY-THIRD: The County Court of Erie County of the State of New York erred in affirming the judgment of the City Court of Buffalo convicting the plaintiff in error of the violation of said act and imposing a fine upon him pursuant to the provisions of Section 1275 of the Penal Law of the State of New York.

(Assignment XXIII, page x)

TWENTY-FOURTH: The City Court of Buffalo erred in convicting the plaintiff in error of the violation of said act and imposing a fine upon him pursuant to the provisions of Section 1275 of the Penal Law of the State of New York.

(Assignment XXIV, page x)

In brief, the legal questions involved under the pending Writ of Error and return thereto and other papers together constituting the record in this case are whether or not the judgment of conviction of plaintiff in error of the violation of certain designated provisions of Subdivision 3 of Section 161 of the Labor Law of New York

enacted by Chapter 535 of the New York Laws of 1917, is not a denial of a title, right, privilege or immunity, which plaintiff in error claims under Section 1 of Article 14 of the Amendments of the Constitution of the United States and also under Section 10 of Article 1 of the Constitution of the United States.

In other words, plaintiff in error, who was convicted of the violation of certain provisions of Subdivision 3 of Section 161 of the Labor Law of New York enacted by Chapter 535 of the New York Laws of 1917, such conviction having been affirmed by the Appellate Courts including the Court of Appeals, the highest court of the State of New York, set up and urged in the trial court, namely in the City Court of Buffalo and in all the Appellate Courts of New York that he could not be lawfully convicted under said State statute and fined, alleging that said State statute was null and void because it is repugnant to and violates Section 1 of Article 14 of the Amendments of the Constitution of the United States and is also repugnant to and violative of Section 10 of Article 1 of the Constitution of the United States and on the application of said plaintiff in error the Chief Judge of the Court of Appeals of the State of New York granted the Writ of Error in this case from the Supreme Court of the United States to the City Court of Buffalo, New York, wherein the record of said case was lodged, to bring up for review the record of said conviction of the plaintiff in error as has been done in this case.

POINT I.

The Court of Appeals of the State of New York erred in affirming the conviction of the plaintiff in error and thereby denying the title, right and privilege or immunity under Section 1 of Article 14 of the Amendments of the Constitution of the United States and under Section 10 of Article 1 of the Constitution of the United States, claimed by plaintiff in error in the said Court of Appeals and in the other courts of the State of New York and the Supreme Court of the United States has jurisdiction to review said judgment of conviction of the plaintiff in error.

By virtue of the authority conferred by Section 237 of the Judicial Code of the United States plaintiff in error seeks to review herein the final judgment of the Court of Appeals, the highest court of the State of New York, made on remittitur therefrom the judgment of the City Court of Buffalo (pages iv-v) to which court the Writ of Error from the Supreme Court was allowed by the Chief Judge of said Court of Appeals (231-234), wherein plaintiff in error drew in question the validity of subdivision 3 of Section 161 of the Labor Law of New York, enacted by Chapter 535 of the New York Laws of 1917 for the violation of some of whose provisions he was found guilty and fined (fols. 1003-1006), whereby plaintiff in error was denied a title, right, privilege or immunity claimed by plaintiff in error

under Section I of Article 14 of the Amendments of the Constitution of the United States and under Section 10 of Article I of the Constitution of the United States, on the ground that such provisions of said statute were null and void, because they were and are repugnant to and in violation of Section I of Article 14 of the Amendments of the Constitution of the United States and also that they also were and are repugnant to and in violation of Section 10 of Article I of the Constitution of the United States. (fols. 114-124, 128-132, 970-972, 979-985, 985-990, 995-997, 1004-1006, pages vi-x).

The Writ of Error was properly allowed as a Federal question, involving a title, right, privilege or immunity claimed by plaintiff in error under the Constitution of the United States, was duly presented on the arraignment of plaintiff in error in the trial court (fols. 114-133) and reasserted by him at the conclusion of the testimony, (fols. 970-997) and on his application for authority to appeal to the County Court of Erie County from said City Court judgment (fols. 36-43, 48-53, 61-66), and said Federal question was the principal litigated question and appears in the record of the case through the Appellate Division of the Supreme Court in the Fourth Department and in the Court of Appeals of New York, by all of which State Courts such Federal question was decided against the claim of the plaintiff in error.

Kansas City S. R. Co. v. Road Improvement Dist. No. 6, 256 U. S. 659-660.

The State statute in question under which plaintiff in error was convicted is set forth at folios 100 to 106 of the record. It will be seen by its title that it is a labor not a health measure.

As already stated no question is raised in this case as to the limitation of nine hours in any one day nor as to the limitation of six days in any one week, all of which limitations are prescribed by said statute.

The only question involved in this case is that of the validity of those provisions of said statute, which arbitrarily, inflexibly and absolutely prohibit a female over the age of sixteen years to work in or in connection with a restaurant in cities of the first and second class before 6 o'clock in the morning or after 10 o'clock in the evening.

It is as drastic as the fabled laws of the Medes and Persians.

The Oregon statute, chapter 102 of the laws of 1913, upheld in Bunting v. Oregon, 243 U. S. 426-439, authorized overtime employment not to exceed three hours in any one day upon payment for such overtime. That afforded some elasticity and furthermore that statute did not limit such employment to any specific hours out of the twenty-four hours of the day.

The Oregon statute upheld in Muller v. Oregon, 208 U. S. 412 prohibiting employment of a female in a mechanical establishment or factory or

laundry more than ten hours in any one day did not limit such employment to any period of day or night service.

The California statute upheld in Miller v. Wilson, 236 U. S. 373-384 limiting the hours of labor to eight hours out of the twenty-four hours of the day in certain occupations expressly provided that "the hours of work may be so arranged as to permit the employment of females at any time so they shall not work more than eight hours during the twenty-four hours of one day or forty-eight hours during any one week."

The Massachusetts Statute upheld in Riley v. Mass. 232 U. S. 680 prohibiting the employment of females more than ten hours in a day permitted the employer with the approval of the Attorney General to designate any ten hours out of the twenty-four for such service. That admitted of some administrative flexibility to meet prevailing conditions in Massachusetts.

Under the New York statute however there is no elasticity whatever regardless of prevailing conditions, such as existed in 1917 throughout the country when the husband of Anna Schmitt was conscripted in the first draft and she was obliged to seek employment to maintain herself and her children while her husband was in the Federal service (fols. 174-208). She found such service as a waitress in the restaurant of the plain-

tiff in error, which was not fatiguing and very agreeable to her. (fols. 174-208).

After her husband was drafted into the military service of the United States in August, 1917, she talked the matter of employment over with her husband (fol. 186) for she had no means of support (fol. 176) other than what she could earn and was given employment as a witress (fols. 177, 185) from twelve o'clock noon until two o'clock in the afternoon and from six o'clock in the evening until twelve o'clock at night (fols. 182-183). The pay was increased by tips, which were good from ten to twelve when first-class people, businessmen came to the restaurant for refreshments after the theaters closed. (fols. 192-195, 548-549). Her duties were waiting on tables (fol. 205).

During the continuation of the contract of employment of Anna Schmitt, who is the wife of a citizen of the United States (fol. 695) existing between said Anna Schmitt and the plaintiff in error, the state statute, Chapter 535 of the Laws of 1917 (fol. 106), prohibiting the employment of any female in restaurants in cities of the first and second class before six o'clock in the morning or after ten o'clock in the evening (fols. 104-105), took effect on October 1st, 1917, (fol. 106).

Said Anna Schmitt continued voluntarily to work after ten o'clock at night until about three minutes after eleven o'clock in the restaurant of

said plaintiff in error, who did not know anything about the limitation of said statute, prohibiting the employment of females in his and other restaurants in cities of the first and second class after ten o'clock at night (fols. 141-145).

Such employment was considered by the Registrar of Vital Statistics in the Department of Health of Buffalo as among the most healthful employments for women (fols. 209-215).

There is no dispute about that. Dr. Henry R. Hopkins, the oldest and one of the best imformed physicians in the state, testified at length on the subject (fols. 446-539) and declared from wide observation and long experience that the employment of women in restaurants was not only not harmful or injurious, but beneficial to their health.

During that period there was a general shortage or withdrawal of men from all occupations, owing to their being called into United States service and women were employed in many branches of service, including the delivery of telegrams, serving on street cars (fols. 224-225), performing night service as nurses in hospitals and employment in factories (fols. 949-950, 963-965).

The statute under consideration does not apply to females employed in restaurants, as singers and performers of any kind or as attendants in ladies' cloak rooms and parlors nor does it apply

to females employed in the dining room and kitchens of hotels or in connection with lunch rooms or restaurants conducted by employers solely for the benefit of their own employees. These several classes of employees are excluded from the inhibition of subdivision 3 of the statute under consideration, which thereby arbitrarily and capriciously discriminates against females employed as waitresses in restaurants in cities of the first and second class.

The statute in question, if it be upheld at all, must be upheld as a statute enacted within the police powers of the state, for it interferes with the liberties of certain citizens in cities of the first and second class and none others, and is therefore also discriminatory class legislation. It cannot be successfully urged that such legislation was necessary for the protection of the morals or the health of women or for the public health.

Is there anything in the nature of the employment of women in restaurants so detrimental to their health as to justify such extraordinary legislation as the act under consideration and under which the plaintiff in error was convicted?

The evidence of plaintiff in error's witnesses showed conclusively that there is nothing detrimental to the health of women in their employment in restaurants in cities of the first and second class, and that was not contradicted nor was there any attempt to contradict it. All plaintiff in

error's witnesses, lay and expert, testified that such employment was healthful.

Such service is lighter and easier than housework (folios 191, 219, 385) and easier and cleaner than kitchen work (folios 381-384) and preferable to day work in a factory (folios 860, 864, 895, 896) and is less injurious than work in mercantile establishments (folios 517, 531, 642, 644, 838). Such employment is beneficial and tends to produce longevity (folio 489).

On the trial, the evidence greatly preponderated tending to establish the proposition, that the employment of females in restaurants is not only not injurious to the health of such employees and to public welfare generally, but that it is the normal occupation of women and tends to promote their health. It is also necessary for patrons comprising large numbers of people who work in many places and must have food at night while so employed in factories, shops and in the street car service and in other nightly occupations.

Such occupation does not "tend to break down the health of the laborer," as was stated in People v. Charles Schweinler Press, 214 N. Y. 408. Night employment in a factory or mercantile establishment may produce that result, but that is an entirely different matter from the easy, domestic occupation of females in restaurants.

The statute was not designed to promote the health, safety, morals, or general welfare of

women, for nothing of the kind is expressed or implied in the title or prescribed in the provisions of Chapter 535 of the Laws of 1917 of New York.

Therefore, the legislation cannot be justified as within the exercise of the police powers of the State, for it infringes on and is violative of the provisions of Federal Constitutions. It does so in the case of the former, by disfranchising or depriving women of the rights or privileges of earning a livelihood, "the very essence of personal freedom" to adopt the phrase of Justice Hughes in Truax vs. Raich, 239 U. S. 41, and in the case of the latter constitutional protection, by abridging the privileges and immunities of women, who are citizens of the United States, by prohibiting their employment in restaurants in cities of the first and second class before six A. M. and after ten P. M. Thus the statute in question interferes with "the liberty of contract, which cannot legally be justified in a free land."

Adair vs. United States, 208 U. S. 161.
Coppage vs. Kansas, 236 U. S. 12.
People vs. Marcus, 185 N. Y. 257.

As was said by Justice Pitney, in Coppage vs. Kansas, 236 U. S. 18-19, "an interference with the moral exercise of personal liberty and property rights is the primary object of the (Kansas) statute and not an incident to the advancement of the general welfare * * * In our opinion the (14th) Amendment debars states from striking down personal liberty, or property rights or materially

restricting their normal exercise, excepting so far as may be incidentally necessary for the accomplishment of some other and paramount object and one that concerns the public welfare. The mere restriction of liberty or of property rights cannot of itself be dominated "public welfare" and treated as a legitimate object of the police powers for such restriction is the very thing that is inhibited by the (14th) Amendment."

The statute (Ch. 535 of the New York laws of 1917) under consideration is not one to regulate the hours of labor as did the Oregon Act upheld in Bunting vs. Oregon, 243 U. S., 426, but is a statute *absolutely prohibiting* females working in restaurants in cities of the first and second class, before six A. M. or after ten P. M., as distinguished from females employed in restaurants in all other parts of the state outside of cities of the first and second class, and also as distinguished from females employed in restaurants as singers and performers of any kind and as attendants in ladies' cloak rooms and parlors and females employed in dining rooms and kitchens of hotels and in lunch rooms, or restaurants conducted by employers for the benefit of their employees, which females so employed may work at any and all hours, night or day. This is discriminatory legislation of the most flagrant kind and offends against common and equal justice vouchsafed to all citizens alike under the equality protection guaranteed by the 14th Amendment of the Constitution of the United States.

That reads: "No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any state deprive any person of life, liberty or property without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws."

Section 10 of Article 1 of the Constitution of the United States also provides that "No state * * * shall pass any * * * law impairing the obligation of contracts" as was done by the State of New York in passing Chapter 575 of the Laws of 1917, which impaired the contract between Anna Schmitt and the plaintiff in error. (fols. 174-199.)

The statute (Chapter 535 of the Laws of 1917) offends against these constitutional provisions. It is not a valid exercise of the police powers of the state. The kind of work prohibited is not unlawful nor dangerous to public health, but quite to the contrary, it tends to promote the public health. Nor is it immoral or detrimental to the health of the employee and there is no reasonable connection between the limitation prescribed by the act and the public health, safety or welfare.

The employment is not continuous for the nine hours allowed but ceases shortly after meal time until time to prepare for the next meal. The period of continuous employment does not usually exceed from two to three hours and those hours

are when meals are being served (fols. 179, 184, 218, 385, 534, 536, 539, 563, 565, 633, 734, 813, 818).

There were no grounds for belief that the employment of women in restaurants was injurious to their health or detrimental to the public and there were no facts before the legislation to justify such legislation which deprives plaintiff in error and all other restaurant employers and their employees of the right to make contracts in a lawful way and for lawful purposes and which deprives plaintiff in error and all other restaurant employers in cities of the first and second class and employees therein of the equal protection of the laws and abridges the privileges and immunities of plaintiff in error, a citizen of the United States and deprives him of his property and liberty without due process of law.

In addition to the cases hereinbefore cited, the attention of the Supreme Court of the United States is called to the recent case of Truax v. Corrigan, reported in 257 U. S., 312-376. In that case the court had under consideration an Arizona statute. After reciting the facts in that case, Chief Justice Taft said:

> "This brings us to consider the effect in this case of that provision of the 14th Amendment which forbids any state to deny to any person the equal protection of the laws. The clause is associated in the Amendment with the due process clause, and it is customary to consider them together. It may be that they overlap, that a violation of one may involve at times the violation of the other, but the

spheres of the protection they offer are not coterminous. The due process clause brought down from Magna Charta was found in the early state constitutions and later in the 5th Amendment to the Federal Constitution as a limitation upon the executive, legislative, and judicial powers of the Federal government, while the equality clause does not appear in the 5th Amendment, and so does not apply to congressional legislation. The due process clause requires that every man shall have the protection of his day in court, and the benefit of the general law,—a law which hears before it condemns, which proceeds not arbitrarily or capriciously, but upon inquiry, and renders judgment only after trial, so that every citizen shall hold his life, liberty, property, and immunities under the protection of the general rules which govern society. Hurtado v. California, 110 U. S., 516, 535. It, of course, tends to secure equality of law in the sense that it makes a required minimum of protection of everyone's right of life, liberty, and property, which the Congress or the legislature may not withhold. Our whole system of law is predicated on the general fundamental principle of equality of application of the law. 'All men are equal before the law'; 'This is a government of laws, and not of men'; 'No man is above the law,'—are all maxims showing the spirit in which legislatures, executives, and courts are expected to make, execute, and apply laws. But the framers and adopters of this Amendment were not content to depend on a mere minimum secured by the due process clause, or upon the spirit of equality which might not be insisted on by local public opinion. They therefore embodied that spirit in a specific guaranty.

The guaranty was aimed at undue favor and individual or class privilege, on the one

hand, and at hostile discrimination or the oppression of inequality, on the other. It sought an equality of treatment of all persons, even though all enjoyed the protection of due process. * * * Thus, the guaranty was intended to secure equality of protection not only for all, but against all similarly situated. Indeed, protection is not protection unless it does so. Immunity granted to a class, however limited, having the effect to deprive another class, however limited, of a personal or property right, is just as clearly a denial of equal protection of the laws to the latter class as if the immunity were in favor of, or the deprivation of right permitted worked against, a larger class.

Mr. Justice Matthews, in Yick Wo v. Hopkins, 118 U. S., 356, speaking for the court of both the due process and equality clause of the 14th Amendment, said:

'These provisions are universal in their application, to all persons within the territorial jurisdiction, without regard to any differences of race, of color, or of nationality; and the equal protection of the laws is a pledge of the protection of equal laws.'

The accuracy and comprehensive felicity of this description of the effect of the equality clause are shown by the frequency with which it has been quoted in the decisions of this court. It emphasizes the additional guaranty of a right which the clause has conferred beyond the requirement of due process.

With these views of the meaning of the equality clause, it does not seem possible to escape the conclusion that, by the clauses of Sec. 1464 of the Revised Statutes of Arizona, here relied on by the defendants, as construed by its supreme court, the plaintiffs have been deprived of the equal protection of the law.

* * *

> The 14th Amendment, as this court said in Barbier vs. Connolly, already cited intended 'not only that there should be no arbitrary deprivation of life, liberty, or arbitrary spoilation of property, but that equal protection and security should be given to all under like circumstances, in the enjoyment of their personal and civil rights; that all persons should be equally entitled to pursue their happiness and acquire and enjoy property; that they should have like access to the courts of the country for the protection of their persons and property, the prevention and redress of wrongs, and the enforcement of contracts; that no impediment should be interposed to the pursuits of anyone except as applied to the same pursuits by others under like circumstances; that no greater burdens should be laid upon one than are laid upon others in the same calling and condition, and that, in the administration of criminal justice, no different or higher punishment should be imposed upon one than such as is prescribed to all for like offenses.' "

The New York state statute under consideration in discriminatory class legislation in not applying to several specified employees, very much as the anti-trust act, which was declared invalid in Connolly v. Union Sewer Pipe Company, 184 U. S., 540, because in the same paragraph that act, similar to the state statute under consideration, contained an excepting provision "that it should not apply to agricultural products or live stock in the hands of the producer or raiser."

Classification must be reasonable, and can never be made arbitrarily and without some difference,

which bears a reasonable and just relation to the act in respect to which the classification is proposed and is not a mere arbitrary selection.

Gulf, Col. & S. F. R. Co. v. Ellis, 165 U. S., 155. As was said in Magoun v. Illinois Trust and Savings Bank, 170 U. S., 283, 293, "The rule—that is the equality clause—is not a substitute for municipal law: It only prescribes that that law have the attribute of equality of operation, and equality of operation does not mean indiscriminate operation on persons merely as such, but on persons according to their relation." Southern R. Co. v. Greene, 216 U. S., 417.

Classification such as that in subdivision 3 of Section 161 of the New York Labor Law is arbitrary, discriminatory and unreasonable class legislation not designed to accomplish any public purpose (Mutual Loan Co. v. Martell, 222 U. S., 225) but absolutely prohibit females from following their normal indoor occupation of waitresses in restaurants in cities of the first and second class under municipal and state inspection and supervision, which restaurants are patronized by the best citizens. (fol. 194.)

The police powers of the state do not justify the legislature in enacting legislation repugnant to or in violation of such provisions of the Constitution of the United States as Section I of Article 14 of the Amendments of the Constitution of the United States or of Section 10 of Article I of the Constitution of the United States as plaintiff in error

asserted in the trial and appellate courts of New York had been done in the enactment of subdivision 3 of Section 161 of the New York Labor Law hereinbefore quoted. That statute is not a health measure nor a measure regulating the hours of labor but a measure absolutely prohibiting female employment in restaurants in cities of the first and second class before six o'clock in the morning and after 10 o'clock in the evening. It is an absolute denial of personal rights and privileges under the provisions of the Constitution of the United States claimed by the plaintiff in error. Police powers are subordinate to the paramount authority of the Constitution of the United States.

Hannibal & St. J. R. P. Co. v. Husen, 95 U. S., 465.
Mugler v. Kansas, 123 U. S., 623.
Slaughter House Cases, 16 Wall., 36.
Cotting v. Kansas City Stock Yards, 183 U. S., 79.

In Connolly v. Union Sewer Pipe Co., 184 U. S., 558, Mr. Justice Harlan in delivering the opinion of the Supreme Court as to the validity of the Illinois anti-trust act already noted, which expressly excepted from its provisions "agricultural products or live stock while in the hands of the producer or raiser" in declaring that law invalid, said: "As the Constitution of the United States is the supreme law of the land, anything in the Constitution or statutes of the states to the contrary notwithstanding, a statute of a state, even when avowedly enacted in the exercise of its po-

lice powers, must yield to that law." No right granted or secured by the Constitution of the United States can be impaired or destroyed by a state enactment, whatever may be the source from which the power to pass such enactment may have been derived. "The nullity of any act inconsistent with the Constitution is produced by the declaration that the Constitution is the supreme law." The state has undoubtedly the power, by appropriate legislation, to protect the public morals, the public health, and the public safety; but if, by their necessary operation, its regulations looking to either of those ends amount to a denial to persons within its jurisdiction of the equal protection of the laws, they must be deemed unconstitutional and void, citing the following cases: Gibbons v. Ogden, 9 Wheat., I; Sinnot v. Davenport, 22 How., 227, 243; Missouri, K. & T. R. Co. v. Haber, 169 U. S., 613, 626. * * *

Mr. Justice Harlan in further elucidation of the equal protection secured by the Federal Constitution said, "upon the general question we have said that the guaranty of the equal protection of the laws means 'that no person or class of persons shall be denied the same protection of the laws which is enjoyed by other persons or other classes in the same place and under like circumstances.'" Missouri v. Lewis, 101 U. S., 22, 31, *sub nom.* Bowman v. Lewis, 25 L. Ed., 989, 992. We have also said: "The 14th Amendment, in declaring that no state 'shall deprive any person of life, liberty or property without due process of

law, nor deny to any person within its jurisdiction the equal protection of the laws', undoubtedly intended, not only that there should be no arbitrary deprivation of life or liberty, or arbitrary spoilation of property, but that equal protection and security should be given to all under like circumstances in the enjoyment of their personal and civil rights; that all persons should be equally entitled to pursue their happiness and acquire and enjoy property; that they should have like access to the courts of the country for the protection of their persons and property, the prevention and redress of wrongs, and the enforcement of contracts; that no impediment should be interposed to the pursuits of anyone except as applied to the same pursuits by others under like circumstances; that no greater burdens should be laid upon one than are laid upon others in the same calling and condition, and that in the administration of criminal justice no different or higher punishment should be imposed upon one than such as is prescribed to all for like offenses." Barbier v. Connolly, 113 U. S. 27, 31. This language was cited with approval in Yick Wo v. Hopkins, 118 U. S. 356, 369, in which it was also said that "the equal protection of the laws is a pledge of the protection of equal laws". In Hayes v. Missouri, 120 U. S. 68, we said that the 14th Amendment required that all persons subject to legislation limited as to the objects to which it is directed, or by the territory within which it is to operate, "shall be treated alike, under like circumstances and conditions both in the privileges conferred, and in the

liabilities imposed." "Due process of law and the equal protection of the laws," this court has said, "are secured, if the laws operate on all alike, and do not subject the individual to an arbitrary exercise of the powers of government". Duncan v. Missouri, 152 U. S. 377. * * * * *

The difficulty is not met by saying that, generally speaking, the state when enacting laws may, in its discretion, make a classification of persons, firms, corporations and associations, in order to subserve public objects. For this court has held that classification "must always rest upon some difference which bears a reasonable and just relation to the act in respect to which the classification is proposed, and can never be made arbitrarily and without any such basis. * * * But arbitrary selection can never be justified by calling it classification. The equal protection demanded by the 14th Amendment forbids this * * . No duty rests more imperatively upon the courts than the enforcement of those constitutional provisions intended to secure that equality of rights which is the foundation of free government * * * * It is apparent that the mere fact of classification is not sufficient to relieve a statute from the reach of the equality clause of the 14th Amendment, and that in all cases it must appear, not only that a classification has been made, but also that it is one based upon some reasonable ground,—some difference which bears a just and proper relation to the attempted classification,—

and is not a mere arbitrary 'selection.' Gulf, C. & S. F. R. Co. v. Ellis, 165 U. S., 150, 155, 159, 160, 165. These principles were recognized and applied in Cotting v. Kansas City Stock Yards Co., 183 U. S. 79, in which it was unanimously agreed that a statute of Kansas regulating the charges of a particular stock-yards company in the state, but which exempted certain stock yards from its operation, was repugnant to the 14th Amendment in that it denied to that company the equal protection of the laws."

The court concluded its lengthy opinion by declaring the Illinois trust act repugnant to and violative of the provisions of the 14th Amendment of the Constitution of the United States. Connolly v. Union Sewer Pipe Co., 184 U. S., 540-571. The decision in that case applies directly to the consideration of the New York state statute, with its excepting clauses, in question in this case. The language in the two acts, containing such excepting clauses, is very similar, namely in the Illinois act that "9. The provisions of this act will not apply to agricultural products, or live stock while in the hands of the producer or raiser" (184 U. S. 554) and in the New York act "this subdivision shall, however, not apply to females employed in restaurants as singers and performers of any kind, or as attendants in ladies' cloak rooms and parlors, nor shall it apply to females employed in or in connection with dining rooms and kitchens of hotels or in connection with lunch

rooms or restaurants conducted by employers solely for the benefit of their own employees." (fols. 104, 105.) The discrimination against certain female employees is so obvious that the New York statute cannot escape the condemnation declared against the validity of the Illinois anti-trust statute. If a female be an owner or a stockholder in a restaurant or otherwise taken out of the category of employees, she may work before 6 o'clock in the morning or after 10 o'clock in the evening or at any other time. She may work in hotels at all hours. She may perform various other kinds of service in and about restaurants and all kinds of service in hotels at any or all hours of the night under the excepting provisions of the New York statute.

It will thus be seen that the New York statute operates unequally and unjustly and does not affect equally and impartially all persons similarly situated and therefore it is capricious class legislation.

The Supreme Court of the United States in Royster Guano Co. vs. Virginia, 253 U. S. 415 said:

> "the classification must be reasonable, not arbitrary, and must rest upon some ground of difference having a fair and substantial relation to the object of the legislation, so that all persons similarly circumstanced shall be treated alike."
>
> Butchers' Union Co. v. Crescent City Co., 111 U. S. 746.
>
> The State v. Haun, 61 Kansas, 146.

No legislative investigation preceded the enactment of the New York statute in question, as that which preceded the enactment of Chapter 83 of the New York Laws of 1913, prohibiting the employment of females in factories before 6 A. M. or after 10 P. M. upheld in People of the State of New York v. Charles Schweinler Press, 214 N. Y. 395, referred to in the opinion of the County Judge. (fol. 83.) That case stands alone and is opposed to the decision in People v. Williams, 189 N. Y. 131, which was cited with approval by Mr. Justice McKenna in Riley v. Mass. 232 U. S. 680. The Schweinler Press case restricted the employment of females in factories and is clearly distinguishable from their employment in restaurants. These New York cases must all be considered in the light of the decision of the Supreme Court in the case of Lochner v. New York, 198 U. S. 45, recently re-approved in Adkins, *et al.* v. The Children's Hospital of the District of Columbia.

The evidence shows a marked difference between the work of females at night in mercantile establishments, factories, etc., as compared with work of females in restaurants (fols. 462, 516-520, 530-531, 642-644, 838, 857-864, 883-885) so that there may be a substantial basis for restrictive legislation as to mercantile establishments, factories, etc. There is no such basis, however, for such restrictive legislation as to the service in restaurants (fols. 477-478) and the legislation in question was not preceded by any legislative in-

vestigation or the presentation of facts warranting its enactment under the police powers of the state in contravention of the provisions of Section I of Article 14 of the Amendments of the Constitution of the United States, or of Section 10 of Article 1 of the Constitution of the United States, under both of which plaintiff in error claimed the title, right, privilege and immunity thereby (fols. 114-124, 128-132, 978-990, 998, 36-43, 48-53, 61-67).

POINT II.

The Court of Appeals of the State of New York erred in not deciding that the New York Statute, chapter 535 of the Laws of 1917, adding new subdivision 3 to section 161 of Article 12 of the Labor Law, constituting chapter 31 of the Consolidated Laws, is repugnant to and violation of section 1 of Article 14 of the Amendments of the Constitution of the United States and also of section 10 of Article 1 of the Constitution of the United States.

The statute in question is neither an act to promote the health of females or the public health, as its title, namely, "An Act to amend the Labor Law in relation to the hours of Labor of Women in Restaurants" (Fol. 100) clearly shows, nor is it an act to regulate the hours of labor of females in restaurants, but on the contrary, it absolutely prohibits females from performing any service

in restaurants in cities of the first and second class, which comprise all the large cities of the State of New York, before 6 A. M. and after 10 P. M. (Fols. 104-105) so the act may be better characterized as an act of prohibition against females earning a livelihood in a perfectly normal and healthful occupation.

The doors of all restaurants in the large cities of the state are thereby closed before six A. M. and after ten P. M. to thousands of females seeking to earn an honest livelihood in a service largely domestic, for which they are especially fitted and which promotes their health rather than impairs it, as shown by the great preponderance of evidence on the trial. The statute prescribes a schedule of hours within which no female may perform any service in restaurants in cities of the first and second class. There is no elasticity in the statute as there was in the California act, upheld in Miller v. Wilson, 236 U. S. 373, and no discretion is vested in state officers to designate any particular hours for such service as was provided in the Massachusetts statute, which was upheld in Riley v. Mass., 232 U. S. 680, and the act is absolutely prohibitive of the employment of females in restaurants in cities of the first and second class within the prohibited hours, which was not done even in the Oregon statute, upheld in Muller v. Oregon, 208 U. S. 412, which did not limit the hours of employment to any particular period of day or night service but contained only the

limitation that females should not be employed more than ten hours out of the twenty-four hours of the day.

The New York statute under consideration is the first state statute prescribing a schedule of hours for employees in a perfectly healthful service that has come before the Supreme Court of the United States and is as inflexible as the fabled laws of the Medes and Persians and thereby impinges upon the inhibitions of Section 1 of Article 14 of the Amendments of the Constitution of the United States as well as of Section 10 of Article I of the Constitution of the United States. No standard or rule or light of reason, which has been applied at common law, can be applied to this statute as was done by the Supreme Court of the United States in the case of the Standard Oil Company vs. United States, 221 U. S. 60-68, and also in United States vs. American Tobacco Company, 221 U. S., 179.

There is nothing in the nature of employment of women in restaurants in cities of the first and second class so detrimental to their health as to justify such extraordinary legislation as the act under consideration and under which the plaintiff in error was convicted. The great preponderance of evidence on the trial of all the witnesses, consisting of physicians, employers and employees, established beyond question the healthfulness of the employment of females in restaurants in cities of the first and second class.

Such employment is indoor, normal, domestic service of only two, or at the most, three periods of two or three hours per day, with two to four hours intervening, when there is no service and with occasional service in the evening. No employment could be lighter or less fatiguing as the evidence overwhelmingly showed.

The statute was not designed to promote the health, safety, morals or general welfare of women for nothing of the kind is expressed or implied in the title or prescribed in the provisions of said Chapter 535 of the New York Laws of 1917. The act infringes and is violative of the provisions of Section 1 of Article 14 of the Federal Constitution as well as violative of Section 10 of Article 1 of the Constitution of the United States. It disfranchises and deprives women of earning a livelihood "the very essence of personal freedom" to adopt the phrase of Mr. Justice Hughes in Truax v. Raich, 239 U. S. 41. The the statute in question interferes with the liberty of contract which can not be justified in a free land.

Adair v. United States, 208 U. S. 161-180.

Coppage v. Kansas, 236 U. S. 12.

People v. Marcus, 185 N. Y. 257.

The New York statute in question deprives the plaintiff in error and his employees of the right to contract and be contracted with, and deprives

them of the right of private judgment in matters of individual concern, and in a matter in no wise affecting the general welfare, health and morals of the persons immediately concerned, or of the general public.

In Meyer v. Nebraska (decided by the Supreme Court on June 4, 1923) Mr. Justice McReynolds said:

> "The problem for our determination is whether the statute, as construed and applied, unreasonably infringes the liberty guaranteed to the plaintiff in error by the 14th Amendment. 'No state * * * shall deprive any person of life, liberty, or property without due process of law.'
>
> While this court has not attempted to define with exactness the liberty thus guaranteed, the term has received much consideration, and some of the included things have been definitely stated. Without doubt, it denotes not merely freedom from bodily restraint, but also the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge, to marry, establish a home and bring up children, to worship God according to the dictates of his own conscience, and, generally, to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men. (citing many cases). The established doctrine is that this liberty may not be interfered with, under the guise of protecting the public interest, by legislative action which is arbitrary or without reasonable relation to some purpose within the competency of the state to effect. Determination by the legislature of what constitutes proper exercise of police power is

not final or conclusive, but is subject to supervision by the courts. Lawton v. Steele, 152 U. S. 133; Adams v. Tanner, 244 U. S. 594."

In Meyer v. Nebraska the Nebraska statute was declared to be repugnant to and in violation of Section 1 of the Fourteenth Amendment of the Constitution of the United States.

The Supreme Court of the United States, in Coppage vs. Kansas, 236 U. S. 14 said "Included in the right of personal liberty and the right of private property—partaking of the nature of each—is the right to make contracts for the acquisition of property. *Chief* among such contracts is that of *personal employment*, by which labor and other services are exchanged for money or other form of property. If this *right* be *struck down* or *arbitrarily interfered with*, there is a *substantial impairment of liberty* in the long-established constitutional sense. The right is as essential to the laborer as to the capitalist, to the poor as to the rich; for the vast majority of persons have no other honest way to begin to acquire property, save by work for money." * * * * * * (page 18). "We need not refer to the numerous and familiar cases in which this court has held that the power may properly be exercised for preserving the public health, safety, morals, or general welfare, and that such police regulations may reasonably limit the enjoyment of personal liberty, including the right of making contracts." * * * * * An evident and controlling distinction is this: That in those cases it has been held per-

missible for the States to adopt regulations fairly deemed necessary to secure some object directly affecting the public welfare, even though the enjoyment of private rights of liberty and property be thereby incidentally hampered; while in that portion of the Kansas statute which is now under consideration—that is to say, aside from coercion, etc.,—there is no object or purpose, expressed or implied, that is claimed to have reference to health, safety, morals, or public welfare, beyond the supposed desirability of leveling inequalities of fortune by depriving one who has property of some part of what is characterized as his 'financial independence.' In short, an interference with the normal exercise of personal liberty and property rights is the primary object of the statute, and not an incident to the advancement of the general welfare. But in our opinion, the Fourteenth Amendment debars the States from striking down personal liberty or property rights, or materially restricting their normal exercise, excepting so far as may be incidentally necessary for the accomplishment of some other and paramount object, and one that concerns the public welfare. The mere restriction of liberty or of property rights cannot of itself be denominated 'public welfare,' and treated as a legitimate object of the police power; for such restriction is the very thing that is inhibited by the Amendment.

The Supreme Court held the Kansas Act re-

pugnant to the "due process" clause of the Fourteenth Amendment and therefore void.

Coppage vs. Kansas, 238 U. S. 1-26.

None of the statutes limiting the hours of labor of women that have been sustained, so far as they have been examined, *specify any particular schedule of hours* in the twenty-four hours of the day, except in those cases, where it has been demonstrated that the peculiar kind of employment should not be permitted in the night-time on account of it being injurious to health. No such injurious effect on women employed in restaurants has been shown or observed and therefore the legislature exceeded its police powers in enacting Chapter 535 of the Laws of 1917, which interferes with the enjoyment of the constitutional rights of women.

The Supreme Court of the United States in Lochner vs. New York, 198 U. S. 45, decided that a law providing that no laborer shall be required or permitted to work in bakeries more than sixty hours in a week, or more than ten hours in a day, was not as to men a legitimate exercise of the police powers of this state, but an unreasonable, unnecessary and arbitrary interference with right and liberty of the individual to contract in relation to his labor and as such it was in conflict with and void under the Federal Constitution.

The general right to make a contract in relation to his business is part of the liberty of the indi-

vidual protected by the Fourteenth Amendment of the Federal Constitution.

Allgeyer vs. Louisiana, 165 U. S. 578.

Under that provision, no state can deprive a person of life, liberty or property without due process of law, though reasonable conditions may be imposed in the exercise of its police power.

Adair vs. U. S., 208 U. S. 173.

In Bunting vs. Oregon, 243 U. S. 438, it was stated by the Court that the *record contained no facts* to support the contention of the appellant, whereas, in the pending appeal of People vs. Radice, the lengthy *record contains an abundance of facts* uncontradicted to support contention of plaintiff in error. The evidence is exhaustive, showing that there is no basis in fact, upon which to predicate Chapter 535 of the Laws of 1917.

The statute under consideration exempts females employed in restaurants as singers and performers of any kind, or as attendants in ladies' cloak rooms and parlors, nor does it apply to females in or in connection with dining rooms and kitchens of hotels, or in connection with lunch rooms or restaurants conducted by employers solely for the benefit of their employees, thereby making an invidious distinction against a limited number of employees in restaurants in cities of the first and second class and rendering the statute itself unconstitutional by denying equal protection to all similarly situated.

In the case of Missouri vs. Lewis, 101 U. S. 22-31, the Court said: "No person or class of persons shall be denied the same protection of the laws which is enjoyed by other persons or other classes in the same place and along like circumstances."

It will thus be seen the statute under consideration offends against the Federal Constitutional provisions, which guarantee the equal protection of the laws to all its citizens.

In the strenuous times, when the man power of the nation was being marshalled for military service and females were filling the places of men in all kinds of civil pursuits in this and other countries and necessarily so, it cannot be successfully maintained that employees voluntarily engaging in indoor restaurant service, which is a perfectly normal occupation for women, while nearly all other indoor and out of door occupations are open to them at all hours of day or night, were exposing themselves to any unhealthful strain upon their systems, or that the statute under consideration has on its face, or by its terms, any reasonable connection with the rightful police regulations of the state, for it is not predicated on well founded facts, which the courts sometimes recognize as paramount to the constitutional rights of citizens to the equal protection of the laws, and in their absence, it is not competent for the legislature arbitrarily to invade constitutional rights under the pretence of exercising such police power.

People vs. Marcus, 185 N. Y. 257.
Hauser vs. North British & Mer. Ins. Co., 206 N. Y. 455.

The Court of Appeals said *in re Jacobs*, 98 N. Y. 98 that "Liberty, in its broadest sense, as understood in this country, means the rights, not only of freedom from actual servitude, imprisonment of restrain, but the right of one to use his faculties in all lawful ways, to live and work where he will, to earn his livelihood in any lawful calling, and to pursue any lawful trade or vocation. All laws, therefore, which impair or trammel these rights, which limit one in his choice of a trade or profession, or confine him to work or live in a specified locality, or exclude him from his own house, or restrain his otherwise lawful movements (except as such laws may be passed in the exercise by the legislature of the police power, which will be noticed later), are infringements upon his fundamental rights of liberty, which are under constitutional protection."

Matter of Application of Jacobs, 98 N. Y. 106.

The Court further says, in the same opinion (98 N. Y. 107): "That among inalienable rights as proclaimed in the Declaration of Independence" "is the right of men to pursue any lawful business or vocation in any manner not inconsistent with the equal rights of others, which may increase their property or develop their faculties, so as to give them their highest enjoyment. The common

business and callings of life, the ordinary trades and pursuits which are innocent in themselves, and have been followed in all communities from time immemorial, must therefore, be free in this country to all alike upon the same terms. The right to pursue them without let or hinderance, except that which is applied to all persons of the same age, sex and condition, is a distinguishing privilege of citizens of the United States, and an essential element of that freedom which they claim as their birth right." In the same case, the Court says: "I hold that the liberty of pursuit, the right to follow any of the ordinary callings of life, is one of the privileges of a citizen of the United States" of which he cannot be deprived without invading his right to liberty within the meaning of the Constitution.

In Live Stock, etc., Association vs. Crescent City, etc. Company (1 Abb. (U. S.) 388, 398) the Court said "There is no more sacred right of citizenship than the right to pursue unmolested a lawful employment in a lawful manner. It is nothing more or less than the sacred right of labor." In Wyhamer vs. People, the Court said "That a law which should make it a crime for men either to live in, or rent or sell their houses," would violate the constitutional guaranty of personal liberty.

In Bertholf vs. O'Reily (74 N. Y. 509, 515), Justice Andrews says, "That one could be deprived of his liberty in a constitutional sense without

putting his person in confinement," and that a man's right to liberty included "the right to exercise his faculties, and to follow a lawful avocation for the support of his life."

Matter of Application of Jacobs, 98 N. Y. 107.

The police power cannot be put forward as an excuse for oppressive and unjust legislation and the privilege of pursuing an ordinary calling or trade carries with it the right to engage in any lawful employment. Under the constitutional provisions hereinbefore quoted, the legislature cannot prohibit such employment except it be shown that the health and morals of the employees or the public welfare justifies it. No such showing was or can be made with reference to the employment of females in restaurants of cities of the first and second class in this state.

Supreme Court of Wyoming, in the case of State vs. Le Barron, 162 Pacific Reporter, 265, had under consideration chapter 45 of the Wyoming Laws of 1915 which was held to be unconstitutional. That statute was designed to regulate the hours of employment of females in restaurants, but provided that it should not apply to hotels and restaurants operated by railroad companies.

The Court said:

The said chapter 45, S. L. 1915, reads as follows:

"Section 1. No female shall be employed, or suffered or permitted to work in any manufacturing, mechanical, * * * * printing, baking, laundering, or canning establishment or hotel or telephone exchange, restaurant, theatre or place of public amusement, more than fifty-six hours in any one week, nor more than ten hours in any one day, and such working hours shall not extend over a longer period than twelve hours in any one day, and the continuous period of employment without rest shall not be for a period of hours longer than six, and that the period specified by the word 'lunch,' shall not be less than one-half hour nor more than for two hours; nor shall there be included in any one week more than two days of ten hours each.

"Section 2. The provisions of section 1, of this act shall not apply to telephone office or exchanges, employing three females or less, or to hotels and restaurants operated by railroad companies.

"Section 3. The employment of any female for a longer time in any day or in any week than as so provided in section 1, of this act, etc. * * * * * "

(1-3) The question as to whether or not the statute under consideration is "class legislation" also arises under the provisions of the Fourteenth Amendment to the Constitution of the United States which provides.

"No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person

within its jurisdiction the equal protection of the laws." * * * * As to classifications which are permitted and which do not violate constitutional provisions, it is the uniform rule that the reason for the classification must inhere in the subject-matter, and must be natural and substantial, and must be one suggested by necessity, by such difference in the situation and circumstances of the subjects as to suggest the necessity or propriety of different legislation with respect to them. 6 R. C. Sec. 373. Or, as well stated in State *ex rel.* Richards vs. Hammer, 42 N. J. Law, 435:

> "The true principle requires something more than a mere designation by such characteristics as will serve to classify, for the characteristics which thus serve as a basis of classification must be of such a nature as to mark the objects so designated as peculiarly requiring exclusive legislation. There must be substantial distinction, having a reference to the subject-matter of the proposed legislation, between the objects or places embraced in such legislation and the objects or places excluded. The marks of distinction on which the classification is founded must be such, in the nature of things, as will, in some reasonable degree, at least, account for or justify the restriction of the legislation."

That principle is fully sustained by the decisions of the Supreme Court of the United States. Connolly vs. Union Sewer Pipe Co., 184 U. S. 540, where the decisions are cited and reviewed. * * * A waitress in a restaurant operated by a railroad company is entitled to the same consideration in

law, and the same safeguards to her health as one employed in a restaurant conducted by a department store or a private individual. It has also been held that:

The Legislature cannot take what might be termed a natural class of persons, split that class in two, and then arbitrarily designate, the dissevered factions of the original unit as two classes, and thereupon enact different rules for the government of each. 6 R. C. L. Sec. 375; State vs. Julow, 129 Mo. 163; State v. Miksicek, 225 Mo. 561, in which case a law was held to violate a provision of the Missouri Constitution, and also of the Fourteenth Amendment to the Constitution of the United States, because it discriminated between biscuit, bread, and cake bakeries, and pie, pastry, and cracker bakeries.

In Bailey vs. People, 190 Ill. 28, a statute of that state was held unconstitutional which prohibited more than six persons from sleeping in the same room at the same time in "lodging houses," but not including inns, hotels, taverns, and boarding houses, because it discriminated against lodging house keepers as a class, and deprived them of liberty and a property right which other persons engaged in business of the same general character and similarly conducted might freely exercise without let or hindrance. See, also, State v. Wagner, 69 Minn. 206; State vs. W. W. Robinson Co., 84 Wash. 246.

The Supreme Court of Wyoming in State vs. La Barron, 162 Pacific Reporter 267 said "We are therefore of the opinion that the statute in question arbitrarily and without any substantial basis therefor discriminates between those engaged in the same class of business; that it deprives restaurant keepers, other than railroad companies, of the equal protection of the law and imposes upon them and their employes burdens not imposed upon railroad companies engaged in the same class of business and in substantially the same situation; that it is class legislation and does not operate uniformly upon all of the same class, and in so far as it applies to the hours of labor in restaurants—that being the only question before us —it is unconstitutional and void."

That decision is directly in point and sustains the contention of the plaintiff in error, that subdivision 3 of Section 161 of the Labor Law is unreasonable, arbitrary, discriminatory legislation, repugnant to and in violation of the provisions of the Federal Constitution hereinbefore quoted and therefore it is void.

Restaurant employees and most employers knew nothing about the legislation which was so obnoxious to some keepers of amusement places and to hotel proprietors that they had the bill amended before it finally became law, in so many ways and so radically as to make it far more discriminatory class legislation than the Wyoming law and absolutely destroying the equality of

women citizens in restaurants and hotels, and even in the same restaurant. The legislature is powerless to prohibit lawful employment except to limit the number of hours of employment in the twenty-four hours of the day. It cannot prohibit such employment before 6 A. M. any more than it can prohibit such employment before 11 A. M. It cannot fix a schedule of hours.

In the recent case of Adkins and others constituting the Minimum Wage Board of the District of Columbia against The Children's Hospital of the District of Columbia, case No. 795, and the same plaintiff in error against Willie A. Lyons, case No. 796, in the October Term, 1922, this court had under consideration the Minimum Wage Law within the District of Columbia, involving the constitutionality of an Act of Congress under the Fifth Amendment of the Constitution of the United States, which guarantees due process of law, but is not as broad as Section 1 of the Fourteenth Amendment of the Constitution of the United States. Still under the due process clause of the Fifth Amendment, the Act of Congress fixing the minimum wages of women and children in the District of Columbia, was declared unconstitutional on the ground that said act passed the limits prescribed by the Constitution and the court said "It becomes the plain duty of the courts in the proper exercise of their authority to so declare," where such limits are passed as in the case then under consideration.

In that case Mr. Justice Southerland reviews at length several of the cases cited in this brief, and others, relating to the hours of labor and emphasizes in particular the decision of this court in Lochner vs. New York, 198 U. S. 45.

His comments on the Muller, Riley, Miller, Bosley and Bunting cases are illuminating of the court's decisions in those cases. In refuting the alleged difference between the sexes Mr. Justice Southerland said: "The ancient inequality of the sexes, otherwise than physical, as suggested in Muller v. Oregon, (208 U. S. 421) has continued 'with diminishing intensity.' In view of the great—not to say revolutionary—changes which have taken place since that utterance, in the contractual, political and civil status of women, culminating in the Nineteenth Amendment, it is not unreasonable to say that these differences have now come almost, if not quite, to the vanishing point. In this aspect of the matter, while the physical differences must be recognized in appropriate cases, and legislation fixing hours or conditions of work may properly take them into account, we cannot accept the doctrine that women of mature age, *sui juris*, require or may be subjected to restrictions upon their liberty of contract, which could not lawfully be imposed in the case of men under similar circumstances. To do so, would be to ignore all the implications to be drawn from the present day trend of legislation, as well as that of common thought and usage, by which woman is accorded

emancipation from the old doctrine that she must be given special protection or be subjected to special restraint in her contractual and civil relationships."

That would seem to answer completely the decisions of the lower courts in this case and satisfy any fair-minded person, that there was no justification whatever for excluding females *sui juris* from the very employment they, by nature, are best qualified to perform in restaurants, as they do in their own homes, without let or hindrance.

As Mr. Justice Southerland says in Adkins *et al.* v. The Children's Hospital of the District of Columbia, *supra*, "The authority to fix hours of labor cannot be exercised except in respect to those occupations where work of long continued duration is detrimental to health." Such is not the case in the pending litigation, where the entire days' service is limited to nine hours (Fol. 104) and that is broken up into three periods of service at meals and occasional service between meals. Witnesses all testified that the service was light, even more so than household duties and no illness ever came from it.

In the last mentioned case Mr. Justice Southerland in speaking of the act under consideration said:

> "It forbids two parties having lawful capacity—under penalties as to the employer—to freely contract with one another in respect of the price for which one shall render service to the other in a purely private employment where both are willing, perhaps

anxious, to agree, even though the consequence may be to oblige one to surrender a desirable engagement and the other to dispense with the services of a desirable employe."

The case in question involves the matter of purely private employment between two willing parties both *sui juris* as contradistinguished from a public service as that considered in Wilson vs. New, 243 U. S. 332, involving the validity of the so-called Adamson Law.

In the pending case the question is fairly presented as to whether or not the inhibition contained in Section 1 of Article 14 of the Amendments of the Constitution of the United States and in Section 10 of Article 1 of the Constitution of the United States afford any protection to citizens of the United States in their right to contract with one another in a purely private capacity or whether such contracts can be controlled by capricious legislation opposed to the real interests and general welfare of the public because the maintenance and operation of restaurants is a necessity and especially so in the large cities where a third or more of the patronage is served in the night time.

The inconsistent, discriminatory and prohibitive provisions of subdivision 3 of Section 161 of the New York Labor Law are irreconcilable, discriminatory and an unlawful invasion of private rights in contravention of the foregoing provisions of the Federal Constitution. As already stated, no question is raised as to the nine hours a day or fifty-four hours a week limitation under

said statute. The only question involved is as to the right to absolutely prohibit the employment of females in restaurants before six o'clock in the morning or after ten o'clock at night and that question was raised in the Trial Court and through all the Appellate Courts and in the assignment of errors and is brought to the Supreme Court for its decision, as the titles, rights, privileges and immunities claimed by them as well as by the plaintiff in error have been denied them by the State of New York in enacting said state statute.

In the noted case of Marbury vs. Madison, 1 Cranch (U. S.) 163, Chief Justice Marshall said:

> "The government of the United States has been emphatically termed a government of laws and not of men. It will certainly cease to deserve this high appellation, if the laws furnish no remedy for the violation of vested legal right."

It will be remembered that in that celebrated case, the 13th Section of the Judiciary Act of 1789, drawn by Oliver Ellsworth, afterwards Chief Justice of the Supreme Court of the United States, was declared unconstitutional and void. In that opinion may be found a statement of the principles to be followed by courts in determining the supremacy of constitutional rights to statutes, violative of those rights and repugnant to the constitution itself and the duty of the courts to declare such legislative acts null and void.

POINT III.

WHEREFORE, plaintiff in error respectfully submits that said subdivision 3 of section 161 of the New York Labor Law enacted by Chapter 535 of the New York Laws of 1917 brought by Writ of Error to the Supreme Court of the United States for its review, be held to be repugnant to and in violation of Section 1 of Article 14 of the Amendments of the Constitution of the United States and also as repugnant to and in violation of section 10 of Article 1 of the Constitution of the United States and therefore null and void and that judgment of the Court of Appeals and of other courts of New York, convicting the plaintiff in error of the violation of some of the provisions of said State Statute, be reversed and the cause remanded to the City Court of Buffalo, the Court of Appeals and to other courts of the State of New York, with the direction that their said judgments be reversed and the plaintiff in error be discharged and the fine imposed upon the plaintiff in error be returned to him.

All of which is respectfully submitted,

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Office Supreme Court
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WM. R. STA

Supreme Court of the United States

October Term, 1923.

No. 176.

JOSEPH RADICE,

Plaintiff in Error,

vs.

PEOPLE OF THE STATE OF NEW YORK,

Defendant in Error.

BRIEF FOR THE DEFENDANT IN ERROR.

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BATAVIA TIMES, LAW PRINTERS
BATAVIA, N. Y.

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Supreme Court of the United States

No. 176.

(No. 758, October Term, 1922.)

JOSEPH RADICE,
Plaintiff in Error,

vs.

PEOPLE OF THE STATE OF NEW YORK,
Defendant in Error.

BRIEF OF THE ATTORNEY GENERAL FOR DEFENDANT IN ERROR.

Statement.

This is a writ of error from the Supreme Court of the United States to the City Court of Buffalo, New York, to review a judgment of the Court of Appeals (p. II), the highest Court of the State of New York, affirming a judgment of the Appellate Division of the Supreme Court for the Fourth Department, (Fols. 1051-1060) affirming a judgment of the County Court of Erie County, (Fols. 71-75) affirming a judgment of the City Court of Buffalo (Fols. 107-113) adjudging the plaintiff in error guilty of violation of the provisions of Chapter 535 of the Laws of 1917 of New York,

being a new subdivision 3 of Section 161 of Chapter 36 of the Laws of 1909 of New York, (Section printed in full at end of this brief) and imposing a fine of $20.00 upon said plaintiff in error as authorized by Section 1275 of the Penal Law of the State of New York.

The record discloses that on or about the 10th day of November, 1917, the plaintiff in error was engaged as a co-partner in the operation of the T. R. C. Restaurant at #635 Main street, in the City of Buffalo, Erie County, New York, and in violation of said Subdivision 3 of Section 161 of the Labor Law, did permit and employ one Anna Schmitt of #592 Niagara street, said city, a woman to work in said restaurant as a waitress after ten o'clock P. M. and before six o'clock A. M. to wit: 11:03 P. M. (Fols. 138-165).

An information was filed by the representative of the Commissioner of Labor with the said City Court setting forth said violation. (Fols. 88-95). A warrant was duly issued thereon and executed and the plaintiff in error taken into custody. (Fols. 96-99). He pleaded "not guilty" to the charges (Fols. 136-137) and filed a formal answer, alleging that the statute impaired his rights as guaranteed by both the State and Federal Constitutions. (Fols. 114-134). The trial was had before the Court without a jury and resulted in a verdict of "guilty." (Fols. 1000-1007). Upon the conclusion of the testimony a motion to dis-

miss was made by the plaintiff in error and was duly denied by the court. (Fols. 970-1003). A judgment of conviction was entered upon said verdict and the Court pronounced sentence imposing a fine of $20.00 upon the plaintiff in error. (Fols. 1005-1007). *Plaintiff in error paid the fine.* (p. 11.) *It does not appear from the record that he made any motion in arrest of judgment or to stay execution. Thereafter an application was made to the County Court of Erie County by plaintiff in error to appeal from the judgment of conviction and no objection thereto having been entered upon the ground that the fine had been paid, the County Judge granted permission to plaintiff in error to prosecute said appeal.* (Fols. 26-79). Upon affirmance of the judgment of conviction by the County Court (Fols. 71-75) which filed a written memorandum setting forth the reasons for its decision, (Fols. 76-87) an appeal was taken to the Appellate Division of the Supreme Court for the Fourth Department and after affirmance by said Court an appeal was taken to the Court of Appeals which likewise affirmed the judgment of conviction and remitted the record to the City Court of Buffalo, where the record now reposes and to which Court this writ of error is directed.

In the City Court of Buffalo, a city of the ~~second~~ first class, the defendant in error appeared by a representative of the legal department of the Commissioner of Labor (Fols. 135-136) who is charged with the enforcement of this law under

Section 172 of the Labor Law. The portion of this statute applying is as follows:

> "In cities of the first and second class the Commissioner of Labor shall enforce the provisions of this article, and for that purpose he and his subordinates shall possess all powers herein conferred upon town, village or city boards and departments of health and their commissioners, inspectors and other officers * * *."

Thereafter in the Appellate Courts, the District Attorney of Erie County appeared for the People and he is the attorney of record and has filed a brief upon this review.

The State of New York is interested in sustaining the statute under review and the Attorney-General in pursuance of his duties as imposed upon him by Section 62, Subdivision 1 of the Executive Law of New York, submits an additional brief on behalf of the People.

Section 62, Subdivision 1 reads as follows:

> "GENERAL DUTIES. The Attorney-General shall:
>
> "1. Prosecute and defend all actions and proceedings in which the state is interested and have charge and control of all the legal business of the departments and bureaus of the state, or of any office thereof which requires the services of attorney or counsel, in order to protect the interests of the state, but this section shall not apply to any of the military department bureaus or military office of the state."

The District Attorney of Erie County has assumed the burden of preparing and presenting the argument upon this appeal and the Attorney-General will only attempt in this brief to outline the general principles of law applicable to the questions presented.

I.

Subdivision 3 of Section 161 of Chapter 36 of the Laws of 1909 of New York as amended by Chapter 535 of the Laws of 1917 is a valid exercise of the police power of the state.

The steady increase in the number of women engaging in wage earning pursuits has presented a world wide problem. Their entry into occupational fields to an unprecedented extent has developed a public consciousness of the duty of the state to protect and safeguard these wards whose health, morals and welfare are so inseparably linked with a strong and virile posterity.

The legislative body in its wisdom erects the safeguards and it then becomes the province of the Courts to determine whether these acts are within Constitutional bounds.

We have passed the pioneer stage in prescribing standards for the employment of men and women, but we are still in the midst of the constructive period. Constitutional limitations are not inflexible and yield as occasion requires to

public necessity as exercised through the police power of the state.

Muller vs. Oregon, 208 U. S. 404.

The right to limit the number of working hours in a day and week has long ago been recognized by this Court as proper in some occupations.

Holden vs. Hardy, 169 U. S. 366,

and the scope is gradually broadening as our ideas and conclusions concerning standards of living and standards of healthful occupations are changing. In illustration this Court has been called upon to recognize different standards for women wage earners than those established for men and has declared the distinction valid and within the spirit of the Constitutional limitations. In Muller vs. Oregon *(supra)* after reviewing the marked differences existing between men and women due to sex characteristics and unequal emancipation, this Court said:

> "Differentiated by these matters from the other sex, she is properly placed in a class by herself, and legislation designed for her protection may be sustained, even when like legislation is not necessary for men and could not be sustained."

Then followed the cases of Riley vs. Massachusetts, 232 U. S. 671; Miller vs. Wilson, 236 U. S. 373; Bosley vs. McLaughlin, 236 U. S. 385 all recognizing the same principle and given further finality in Adkin's vs. Children's Hospital, decided after the adoption of the nineteenth amend-

ment, where Mr. Justice Sutherland quotes with approval the foregoing cases and writes:

> "In this aspect of the matter, while the physical differences must be recognized in appropriate cases, the legislation fixing hours or conditions of work may properly take them into account."

The New York Statute is founded upon the same distinction and these cases clearly sustain it. The New York Statute refers to employment of women in restaurants. Like the Statutes considered in the Muller, Riley and Bosley cases, it limits the number of working hours in any one day and in any one week, reserving one day of rest and then makes the further provision that the specified working hours are prohibited after ten o'clock in the night and before six o'clock in the morning. *The principle is the same in all these cases, that is; the power to regulate the working hours of women in particular occupations for the protection of their health, morals and welfare. The earlier Statutes deem a limitation upon the number of working hours sufficient for this purpose; the later Statutes have determined that the time of day during which the* work is performed is of equal importance. If the number of hours of employment can be fixed by the Legislature without violation of the Constitution, surely the working portion of the day can be fixed, provided all of the restrictions imposed meet the test of necessity, reason and equal application. The words of this Court in Bunting vs. Oregon, 243 U. S. 426 apply with particular force to the

Statute under review in its relation to previous legislation of similar character:

> "New policies are usually tentative in their beginnings, advance in firmness as they advance in acceptance."

The Statute here under review has been affirmed by the New York Court of Appeals by a unanimous Court. Previously the same Court approved a like Statute affecting the employment of women in factories (People against Charles Schweinler Press, 214 New York 408) and in mercantile establishments (People *ex rel* John Krohn vs. Warden and Keeper of City Prison, 215 New York 701) after the same had been challenged upon the ground that they transgressed both State and Federal constitutional guarantees. It is sufficiently noteworthy to mention that the New York Court of Appeals in deciding the case of People vs. Charles Schweinler Press *(supra)* 1915 frankly stated that the decision of that Court in People vs. Williams, (189 New York 131) 1907 is not controlling, because the court has since acquired information warranting the restriction of night employment of women.

Plaintiff in error claims that it does not appear that this statute was enacted for the benefit of the health, morals and safety of the women engaged in the specified occupation. This statement is contrary to the facts before the Court upon this review. It is the general rule that a Statute represents the judgment of the Legislature and it

must stand without impeachment unless it is shown that such judgment was not founded upon fact and reason and is arbitrary, unjust and unfair. When the Legislature enacted the New York Statute now under consideration, it had before it not only a report based upon an exhaustive and extensive investigation concerning the employment of women in wage-earning occupations conducted by its own agency, but reports of similar commissions created by other states and nations, and the experience and effect of like statutes previously enacted in other jurisdictions, as disclosed by the record in People vs. Charles Schweinler Press *(supra)*; all of which it had a right to consider as matters of public knowledge and which we must presume it did consider unless the contrary is shown, which has not been done. *All of this information and data has since remained in the possession of the Legislature. It was the basis for the subsequent legislation prohibiting night work for women in mercantile establishments and without question it was the basis of the judgment of the Legislature in enacting the Statute now before this court.* The agency referred to was known as the New York State Factory Investigating Commission, was appointed in 1911 and rendered its final report to the Legislature in 1913. Prior thereto, the New York Court of Appeals had declared the Statute limiting night-work for women in factories unconstitutional in People vs. Wil-

liams *(supra)* and Judge Gray in writing the opinion for the Court stated that it did not appear in the Statute or in the record that the Statute was enacted for the benefit of the health of such women and he concluded therefor that it must be considered a regulation of labor and in conflict with the State and Federal Constitutions. The Factory Investigating Commission pursued a broader investigation than its title imports and quite thoroughly covered the effects upon women of night work in industry and its conclusions were definite and positive that night work was injurious to the health of women. The reasons are set forth in its report and the witnesses sworn included sociologists, medical experts and persons well informed of the matters under consideration through special study and investigation. When the Statute which was declared unconstitutional in People vs. Williams was re-enacted in 1913, it was based upon the report of the Factory Investigating Commission and other public information of the same character of which the Court took judicial cognizance. Mr. Justice Hiscock in writing the opinion for the New York Court of Appeals in sustaining this Statute said in relation to the previous action of the Court in People vs. Williams:

> "Especially and necessarily was there lacking (in People vs. Williams) evidence of the extent to which during the intervening years the opinion and belief have spread and strengthened that such night work is injurious to women; of the laws, as indicating such belief, since adopted by several of our

> own states and by large European countries, and the report made to the legislature by its own agency, the factory investigating commission, based on investigation of actual conditions and study of scientific and medical opinion that night work by women in factories is generally injurious and ought to be prohibited."

It may be urged that this discussion is abreast of the facts before this Court. Not so, for the reason that all of the information referred to was before the courts of New York in People vs. Charles Schweinler Press *(supra)* and the courts had a right to consider it in this case as it was within their knowledge. Likewise the statutes of foreign countries and of other states of the Union in regulation of night employment of women and the widespread public consideration of this question are matters of common knowledge and properly taken into account by the courts without specific reference thereto in this record (United States vs. Teschmacker, 63 U. S. 392, 403). This was not capricious legislation to prevent women from making a livelihood as might be inferred from the argument presented against the validity of this statute but is squarely in line with a well defined policy, based upon experience and undisputed facts, to eliminate night work for women whenever it is deemed to be injurious to their health and well being It can scarcely be seriously contended that the failure to mention in the statute that it was enacted for the promotion of the health, morals and welfare of women must classify this act as Labor Legislation and place it without the bounds of the Constitution.

This statute is Subdivision 3 of Section 161 of the Labor Law and is entitled Article 12 and is included within Sections 160 to 173 which deal with "employment of women and children in mercantile establishments." An enumeration of the titles of the Sections under this Article will indicate that they were enacted for the protection of the health and well being of women and children.

Section 160 Application of article.
161 Hours of labor of minors and women; time for meals.
161-a Hours of labor of messengers.
161-a Posting notice as to number of hours employed.
161 b Employment of children in carrying and distributing newspapers.
162 Employment of children.
163 Employment certificate; how issued.
164 Contents of certificate.
165 School record, what to contain.
166 Supervision over issuance of certificates.
167 Registry of children employed.
168 Cleanliness of rooms.
168-a Cleanliness of buildings.
168-b Drinking water.
168-c Work-rooms and washing facilities.

168-d Dressing rooms.
168-e Water closets.
168-f Ventilation.
169 Lunch rooms.
170 Seats for women in mercantile establishments.
171 Employment of women and children in basements.
172 Enforcement of article.
173 Laws to be posted.

At the end of this brief, Section 161 is printed in full and it appears plainly upon the face of the statute that this entire section is a health provision. It is also worthy of comment that prior to October 1st, 1908, the enforcement of the provisions of this article was within jurisdiction of the local boards of health. Its enforcement in cities of the first class was transferred to the Department of Labor October 1st, 1908, (Sec. 172, Chap. 520, Laws of 1908) and in cities of the second class on March 28th, 1913 (Sec. 172, Chap. 145, Laws of 1913). Outside of the first and second class cities the local health boards continued to have jurisdiction.

As against this mass of information available to the Legislature and which we must assume that body considered in view of its consistent policy in relation to the enactment of laws seeking to restrict night employment of women, the plaintiff in error offered the testimony of restaurant and

hotel keepers of Buffalo, of employees of these establishments and of a physician who acknowledged that he had no expert knowledge of the injurious effects of night work upon women, to prove the statute unfair, unnecessary and arbitrary. Applying the usual rules of evidence the weight of evidence is clearly in favor of the statute. *The Legislature was satisfied from its investigations into this subject that night work for women in restaurants is detrimental to their health.* Their information was of a general character gathered from all corners of the civilized world and it is not refuted by the isolated opinions of a few restaurant proprietors and employees of the City of Buffalo, and the testimony of a physician who admitted upon cross examination that his judgment was based upon his observation in a few cases.

A word seems appropriate about Lochner vs. New York, 198 U. S. 45, cited by plaintiff in error. This case proceeded upon an entirely different premise than the present one. The restrictions upon the hours of labor in bakeries was in no way connected with the public health, safety and welfare and as a labor law it was an unwarranted interference with the right to liberty of person and freedom of contract.

In conclusion the classification created by the statute does not violate the federal constitution. The statute under consideration treats all women

alike, within the same occupations in the same establishments and within the same localities. The classification bears a reasonable and just relation to the act in respect to which the classification is made. The Legislature concluded that night employment is injurious to the health, morals and welfare of women and proceeded to lessen the evil by limiting such employment in restaurants. It probably believed that night work in restaurants presented a *conspicuous example* of what it seeks to prevent and therefore singled out this particular business for its immediate attention, just as it had previously placed a similar limitation upon night work in factories and in mercantile establishments (For injurious effects resulting from night work in restaurants. See report of Minnesota Department of Labor, Attorney General's brief, Appendix C, p. 91). However, certain occupations in restaurants do not present *conspicuous examples* of this evil and the legislature properly made exceptions to the statute in this respect. Females engaged as entertainers, usually classed as professionals; females employed in cloak rooms and parlors, where the work is light and intermittent; females employed in connection with dining rooms and kitchens of hotels, where environment and working and living conditions are different than in restaurants; and females employed in connection with lunch rooms or restaurants conducted by employers solely for the benefit of their employees, which are establishments connected with continuous industries and which have little or nothing in common with public res-

taurants; are without the ban of the statute. There is a valid, reasonable, necessary ground for every exception and each applies generally to every female engaged in the excepted occupation. Likewise, the statute applies equally to all women employed in restaurants as cooks, waitresses, dishwashers, scullery maids and in every occupation connected with a restaurant other than those referred to as excepted occupations. There is no unjust discrimination or unequal protection of the laws in such a classification. The statute treats all alike. It is not necessary to include everyone employed in the same business. It is the character of the occupation in connection with the business which is controlling in this case. The work of persons engaged side by side is frequently so entirely different that they do not fall within the same class. Bearing this distinction in mind the legislature in enacting the statute under consideration has declared that in certain occupations in restaurants restriction of night work by females is unnecessary. These exceptions rest upon a logical and reasonable basis. As to all of this legislation the opinion prevailed that the evil was greatest in cities of the first and second class, the large centers of population. (Constitution, State of New York, Art. XII, Sec. 2. First class cities, population of over 175,000; second class cities, population of less than 175,000 and over 50,000.)

Authorities of this Court seem to answer the objections that the statute is unconstitutional because (a) its application is limited to cities of the

first and second class (b) 1—it fails to include women employed outside of restaurants, 2—it excludes women employed in restaurants in certain occupations and under certain circumstances. Replying to the objections in order (a) The division of legislation by classes of cities is very common in New York. Article 12, Sec. 2 of the State Constitution recognizes this. It was said in Missouri vs. Lewis, 101 U. S. 22, 31:

> "If the State of New York, for example, should see fit to adopt the civil law and its method of procedure for New York City and the surrounding counties, and the common law and its method of procedure for the rest of the State, there is nothing in the Constitution of the United States to prevent its doing so. This would not, of itself, within the meaning of the Fourteenth Amendment, be a denial to any person of the equal protection of the laws. If every portion of the State should be accorded the equal protection of the laws prevailing there, he could not justly complain of a violation of the clause referred to."

See also Gardner v. Michigan, 199 U. S. 325, 333.

(b) A statute cannot be proved unconstitutional by thinking up other instances to which it might with equal propriety have been made to apply. (S. W. Oil Co. v. Texas, 217 U. S. 114, 121; Keokee Coke Co. v. Taylor, 234 U .S. 224, 227.) As is said in Miller v. Wilson, 236 U. S. 373, 383:

> "It is a well-established principle that the legislature is not bound, in order to support the constitutional validity of its regulation,

> to extend it to all cases which it might possibly reach. Dealing with practical exigencies, the legislature may be guided by experience. Patsome v. Pennsylvania, 232 U. S. 138, 144. It is free to recognize degrees of harm, and it may confine its restrictions to those classes of cases where the need is deemed to be clearest. As has been said, it may 'proceed cautiously, step by step' and 'if an evil is specially experienced in a particular branch of business' it is not necessary that the prohibition' should be couched in all-embracing terms.' Carrol v. Greenwich Insurance Co., 199 U S. 401, 411. If the law presumably hits the evil where it is most felt, it is not to be overthrown because there are other instances to which it might have been applied."

A State, as was said in Central Lumber Co. v. South Dakota, 226 U. S. 157, 160:

> "May direct its law against what it deems the evil as it actually exists without covering the whole field of possible abuses, and it may do so none the less that the forbidden act does not differ in kind from those that are allowed. * * * If a class is deemed to present a conspicuous example of what the legislature seeks to prevent, the Fourteenth Amendment allows it to be dealt with although otherwise and merely logically not distinguishable from others not embraced in the law."

~~See also,~~

~~Barbier vs. Connolly, 113 U. S. 27.~~

POINT II.

The statute being a valid exercise of the police power of the state it follows that it places no illegal restriction upon the freedom of contract.

> "Liberty of contract guaranteed by the Constitution is freedom from arbitrary restraint—not immunity from reasonable regulation to safeguard the public interest"
> Miller vs. Wilson *(supra)*.

See

Muller vs. Oregon *(supra)*.
Holden vs. Hardy *(supra)*.

POINT III.

It is respectfully submitted that the judgment of the court below should be affirmed.

CARL SHERMAN,
Attorney-General
for the Defendant in Error

Of Counsel
IRVING I. GOLDSMITH,
Deputy Attorney-General.

APPENDIX A.

The following is Section 161 of Chapter 36 of the Laws of 1909, known as the Labor Law as amended through the legislative action of 1916:

"Section 161. Hours of labor of minors and women; time for meals.

1. No child under the age of sixteen years shall be employed, permitted or suffered to work in or in connection with any mercantile establishment, business office, restaurant, hotel, apartment house, theater or other place of amusement, bowling alley, barber shop, shoe-polishing establishment, or in the distribution or transmission of merchandise, articles or messages, or in the distribution or sale of articles more than six days or forty-eight hours in any one week, or more than eight hours in any one day, or before eight o'clock in the morning or after six o'clock in the evening of any day. The foregoing provision shall not apply to any employment prohibited or regulated by section four hundred and eighty-five of the penal law.

2. No female employee over the age of sixteen years shall be required, permitted or suffered to work in or in connection with any mercantile establishment more than six days or fifty-four hours in any one week, or more than nine hours in any one day, except that one day in each week may be longer than nine hours for the purpose of making one or more shorter work days in the week; or before seven o'clock in the morning or after ten o'clock in the evening of any day. This section does not apply to the employment of persons sixteen years of age or upward between the eighteenth day of December and the following twenty-fourth day of December, both

inclusive, or to such employment for two additional days at any time during the year for the purpose of stocktaking.

3. Not less than forty-five minutes shall be allowed for the noonday meal of the employees of any establishment specified in subdivision one hereof, unless the commissioner of labor shall permit a shorter time. Such permit shall be kept conspicuously posted in the main entrance of the establishment but it may be revoked at any time. Whenever any employee is employed or permitted to work after seven o'clock in the evening, such employee shall be allowed at least twenty minutes to obtain lunch or supper between five and seven o'clock in the evening."

The following amendment was added by Laws of 1917 Chapter 535 and became a new sub-division 3. The former subdivision 3 "*supra*" being re-numbered Subdivision 4.

"In cities of the first and second class no female over the age of sixteen years shall be employed permitted or suffered to work in or in connection with any restaurant more than six days or fifty-four hours in any week, or more than nine hours in any day, or before six o'clock in the morning or after ten o'clock in the evening of any day. This subdivision shall, however, not apply to females employed in restaurants as singers and performers of any kind, or as attendants in ladies cloak rooms and parlors, nor shall it apply to females employed in or in connection with the dining rooms and kitchens of hotels, or in connection with lunch rooms or restaurants conducted by employers solely for the benefit of their employees."

APPENDIX B.

COMPILATION OF NIGHT-WORK LAWS FOR WOMEN WORKERS.

State and date of enactment.	Prohibition of night work.	Limitation of night work.	Occupations or industries specified.
California. 1920.			
Industrial Welfare Commission Orders Nos. 7 and 8, 1920.	10 p. m. to 6 a. m.	.....	Laundry and dry cleaning industry. Dried fruit industry.
Industrial Welfare Commission Order No. 11, 1920.	11 p. m. to 6 a. m.	In continuous processes where a permission to work at night is granted by the industrial commission, time and one-half must be paid.	Manufacturing industry. **Exceptions:** In continuous processes under a permission from the industrial commission.
Connecticut. 1917, 1919.			
In "General Statutes of Connecticut," revision of 1918, sec. 5303, p. 1486, and sec. 5306, p. 1487, and in "Session Laws of Connecticut," 1919, ch. 195, p. 2844.	10 p. m. to 6 a. m.	.....	Public restaurant, cafe, dining room, barber shop, hairdressing or manicuring establishment, photograph gallery, any manufacturing, mechanical, or mercantile establishment. **Exceptions:** Hotels. In the event of war or other serious emergency governor may suspend limitations where he deems it necessary.
Delaware. 1913, 1917.			
In "Revised Statutes of Delaware," 1915, sec. 3135, p. 1457, and in "Laws," 1917, ch. 230, pp. 741-742.	10 p. m. to 6 a. m.	.....	Mechanical or manufacturing establishment, laundry, baking or printing establishment, office or dressmaking establishment. **Exceptions:** Canning or preserving, or preparation for canning or preserving of perishable fruits and vegetables.
		If any part of a female's work is performed between 11 p. m. and 7 a. m. not more than 8 hours of work in any 24 are permitted.	Mercantile establishments, telephone and telegraph office or exchange, restaurant, hotel, place of amusement.
Indiana. 1899.			
In "Burn's Annotated Indiana Statutes," 1914, Vol. III, sec. 8023, p. 995.	10 p. m. to 6 a. m.	.....	Manufacturing.

Kansas. 1917, 1918, 1919.			
Industrial Welfare Commission Order No. 3a, 1917.	After 9 p. m.	.....	Mercantile establishments.
Industrial Welfare Commission Order, No. 8, 1918.	.....	If any part of a female's work is performed after 12 midnight, not more than 8 hours of work in any 24 hours or 48 hours in any 6-day week are permitted, or more than 7 hours of work in any 24 hours or 48 hours in any 7-day week are permitted.	Public housekeeping establishment.
Industrial Welfare Commission Order No. 9, 1918.	.....	Maximum hours shall not exceed 12 for total work time, plus rest time and plus time of all operators regularly employed after 10:30 p. m.	Telephone operators.
Industrial Welfare Commission Order No. 10, 1919.	9 p. m. to 6 a. m.	.....	Manufacturing establishment.
Maryland. 1912, 1916.			
In "Annotated Code of the Public General Laws of Maryland," 1918 (ed. by George P. Bagby,) Vol. IV, Art. C, sec. 51, pp. 747-748.	.....	If any part of a female's work is performed before 6 a. m. or after 10 p. m., not more than 8 hours' work in any one day are permitted.	Manufacturing, mechanical, mercantile, printing, baking, or laundering establishment. **Exceptions:** Canning preserving, or preparing for canning or preserving of perishable fruits and vegetables.
Massachusetts. 1909.			
In "Session Laws of Massachusetts," 1909, ch. 514, sec. 51, p. 740.	10 p. m. to 6 a. m.	.....	Manufacturing.
	6 p. m. to 6 a. m.	.....	Manufacture of textile goods.
Nebraska. 1899, 1913, 1915, 1919.			
In "Session Laws of Nebraska," 1919, ch. 190, Title IV, Art. II, sec. 5 p. 547.	10 p. m. to 6 a. m.	.....	Manufacturing, mechanical, or mercantile establishments laundry, hotel or restaurant, office in metropolitan cities and cities of the first class. **Exceptions:** Public service corporation.
New Hampshire. 1917.			
In "Session Laws of New Hampshire," 1917, ch. 196, p. 750.	.....	If any female works at any time between the hours of 8 p. m. and 6 a. m. on more than 2 nights per week, not more than 8 hours of work are permitted in any 24 hours or more than 48 hours of work in any week.	Manual or mechanical labor in any employment. **Exceptions:** Household labor and nurses, domestic, hotel, and boarding house labor, operators in telephone and telegraph offices, and farm labor, manufacture of munitions and supplies for the United States or the State during war time, mercantile establishments on the 7 days preceding Christmas, provided annual weekly average does not exceed 54 hours per week.
New Jersey. 1923.	10 p. m. to 6 a. m.		Manufacturing establishment, bakery or laundry. **Exception:** Canneries engaged in packing of perishable product, such as fruits or vegetables.

~~In Report of U. S. Dept. of Labor, Bulletin No. 16, revised to date.~~

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State and date of enactment.	Prohibition of night work.	Limitation of night work.	Occupations or industries specified.
New York. 1909, 1910, 1913, 1914, 1915, 1917, 1918, 1919.			
In "Annotated Consolidated Laws of New York," 1918 (2d ed., by Birdseye, Cumming, and Gilbert), ch. 36, sec. 93-b, p. 4616.	10 p. m. to 6 a. m.	.....	Factory.
In "Annotated Consolidated Laws of New York," 1918 (2d ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 161, pp. 4651-4652, and in "Cumulative Supplement," 1918-1920; "Annotated Consolidated Laws of New York" (ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 161, p. 1057.	10 p. m. to 7 a. m.	.....	Mercantile establishment. **Exceptions:** Dec. 18 to 24, 2 days annually for stock taking, writers or reporters in newspaper offices.
In "Annotated Consolidated Laws of New York," 1918 (2d ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 161 p. 4651.	10 p. m. to 6 a. m.	.....	Work in or in connection with restaurants in cities of the first and second class. **Exceptions:** Singers and performers of any kind, attendants in ladies' cloak rooms and parlors, employees in or in connection with the dining rooms and kitchens of hotels or in connection with employees, lunch rooms or restaurants.
In "Cumulative Supplement, 1918-1920, Annotated Consolidated Laws of New York" (ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 161-c, pp. 1057-1058.	10 p. m. to 7 a. m.	.....	Messenger for a telegraph or messenger company, in the distribution, transmission, or delivery of goods or messages.
In "Cumulative Supplement, 1918-1920, Annotated Consolidated Laws of New York" (ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 161-d, pp. 1058-1059.	10 p. m. to 6 a. m.	.....	Conductor or guard on any street surface, electric, subway or elevated railroad.
In "Cumulative Supplement, 1918-1920, Annotated Consolidated Laws of New York" (ed., by Birdseye, Cumming, and Gilbert), ch. 31, sec. 176, p. 1064, and sec. 181, p. 1065.	10 p. m. to 7 a. m.	.....	Custody, management of or operation of elevator for freight or passengers in any building or place. **Exceptions:** If the industry occupying the building starts work at 6 a. m. the elevator operator may begin work at that hour, also elevators in hotels.

Ohio. 1919.			
In "General Code of Ohio, Page's Compact Edition," 1921, Vol. I, sec. 1008-1, p. 495.	10 p. m. to 6 a. m.	.....	Ticket seller.
Oregon. 1919.			
Industrial Welfare Commission Order No. 37, 1919.	After 6 p. m....	.....	Mercantile occupation in Portland. **Exceptions:** Cigar stands in hotels, confectionery stores.
Industrial Welfare Commission Order No. 38, 1919.	After 8:30 p. m.	.....	Mercantile occupation outside of Portland. **Exceptions:**. Cigar stands in hotels, confectionery stores.
Industrial Welfare Commission Orders Nos. 39 and 41, 1919.	After 8:30 p. m.	.....	Manufacturing occupation and laundry occupation. **Exceptions:** Fruit and vegetable drying, canning, preserving, and packing establishment.
Industrial Welfare Commission Order No. 45, 1919.	11 p. m. to 7 a. m.	.....	Elevator operators.
Pennsylvania. 1913, 1915.			
In "Cumulative Supplement to Purdon's Digest of the Statute Law of Pennsylvania," 1905-1915, secs. 35-46, pp. 6115-6116.	10 p. m. to 6 a. m.	.....	Manufacturing establishment. **Exceptions:** Managers, superintendents, or persons doing clerical or stenographic work.
Porto Rico. 1919.			
In "Session Laws of Porto Rico," 2d sess., 1919, No. 73, pp. 496-506.	10 p. m. to 6 a. m.	.....	Any lucrative occupation. **Exceptions:** Telephone operators or telegraphers, artists, nurses, domestics over 16 years of age.
South Carolina. 1911, 1914.			
In "Session Laws of South Carolina," 1914, No. 262, p. 481.	After 10 p. m...	.....	Mercantile establishments.
Wisconsin.1 1917.			
Industrial Commission Orders Nos. 1 and 2, 1917.	6 p. m. to 6 a. m.	.....	Manufactories and laundries. **Exceptions:** Pea canneries.
Industrial Commission Order No. 3, 1917.	.....	If any work is performed between 6 p. m. and 6 a. m., it shall be limited to 8 hours per night, 48 hours per week.	Mechanical or mercantile establishment, restaurant, confectionery store, telegraph or telephone, express or transportation.

1 Wisconsin has an industrial commission order prohibiting night work for women on street railways, but no women are employed in such a capacity in Wisconsin.

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DEC 28 192
WM. R. STANS
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SUPREME COURT OF THE UNITED STATES
OCTOBER TERM, 1923.

No. 176.

JOSEPH RADICE,
Plaintiff in Error,

vs.

PEOPLE OF THE STATE OF NEW YORK,
Defendant in Error.

BRIEF FOR THE DEFENDANT IN ERROR.

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VOL. II.

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PART FIRST

THE WORLD'S EXPERIENCE UPON WHICH THE LEGISLATION PROHIBITING THE EMPLOYMENT OF WOMEN AT NIGHT IS BASED.

A. Bad Effects of Nightwork on Health.

1. The Inferior Value of Sleep in the Day Time.

The most serious physical injury wrought by nightwork is due to the loss of sleep it entails. This is because recuperation from fatigue and exhaustion takes place only in sleep, and takes place fully only in sleep at night.

Sleep in the day time is almost inevitably interrupted and less continuous than sleep at night. While a reversal of day and night may be arranged in scientific experiments, it is practically impossible for industrial workers. Women who work at night are rarely able to have sufficient quiet and privacy so as to make up enough sleep in the day time. In addition to these disadvantages, married women who work at night have also the care of their children by day, thus further reducing the possibility of making up sleep.

With the intensity of modern industry, the individual worker can keep up efficient labor only on condition that the fatigue engendered on one day is repaired before the next day. If fatigue is not balanced by adequate rest, a deficit remains which may be little noticed at first, but which inevitably accumulates, and after a shorter or longer period results in physical breakdown.

Inferior Sleep in the Day Time.—Great Britain.

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 5. Hours of Work. London, 1916. [*Signed on behalf of the Committee by* Sir George Newman, M.D., *Chairman.*]

It has already been stated in paragraph 10 that shifts, where practicable, are preferable to overtime, but the Committee do not desire it to be thought that they regard night work as a good thing in itself, and they deem it advisable to set out some of the objections to it which have come under their notice. . . .

(d) Workers experience great difficulty in sleeping by day, partly because of the dislocation of the ordinary habits of life, and partly because of the noises and disturbances which are almost inevitable in the day time, except under specially favourable conditions.

(e) The unfamiliar meal hours make it difficult for the workers to consume substantial food and their digestion is liable to become deranged. (Page 8.)

Ibid. Interim Report. Industrial Efficiency and Fatigue. London, 1917. The Comparative Efficiencies of Day Work and Night Work in Munition Factories.

Previous Physiological Observations.

6. The temperature of the human body is not constant, but is known to exhibit a distinct cycle during the 24 hours, the maximum appearing between 4 P. M. and 8 P. M., and the minimum between 2 A. M. and 6 A. M. The difference, although the actual maxima and minima are not the same in different persons, may be said to be between 1 and 2 degrees (Fahrenheit). The natural explanation of this cycle is that it reflects the diurnal variations of bodily combustion, in particular that going on in the muscles; and this surmise is borne out by numerous observations. . . .

Inferior Sleep in the Day Time.—Great Britain.

[*Summary.* Experiments* have proved that the temperature cycle conforms to local time. If a person's day maximum occurs at 6 P. M. in New York, it still occurs at 6 P. M. when he comes to Glasgow, that is at the close of the day, and not at the actually corresponding hour of 1 P. M., as it should if the rhythm did not depend on bodily activity.] It ought, therefore, to follow that the temperature cycle in a man who works at night and sleeps by day is reversed, the maximum appearing in the early morning and the minimum in the early evening. Some observers, such as Jaeger, who reported on Army bakers, claimed that the expected reversal really occurred; but their methods were inexact, and the careful observations of Benedict‡ led to the conclusion that the curve was modified, but not reversed; rest and sleep during the day lowered the temperature, but work during the night did not appreciably raise it.

This result is susceptible of two explanations. Either the cause of the diurnal rhythm lies deeper than variations of metabolism, or, in a society the habits of which are based upon the allocation of daylight hours to work and hours of darkness to rest, the minority which strives to change its habits is practically unsuccessful. That the second explanation is the true one has been demonstrated in two ways.

[*Summary.* In one experiment** it was found that in monkeys, kept active at night and allowed to sleep by day, the temperature rhythm was completely reversed. The same was found true of members of the Danish Arctic Expedition of 1906-1908, who completely reversed day and night, although there was a delay in adaptation among some who experienced difficulty in adapting themselves to the changed conditions.]

These results are of considerable practical importance. They show clearly, at least for the period of the experiments, that the accustomed routine of day work

* American Journ. Med. Sc., 1905, page 1048.
Journ. Physiology (Proc. Phys. Soc.) 1908.
‡ American Journ. Physiology, XI, 1904, page 143.
** Trans. Roy. Soc. Edin., XLV (Part I), 1905, page 65.

and night rest can be reversed, without injury to health or efficiency, but they also show that a necessary condition is that the workers must either be endowed with more than common powers of self-control, to enable them to surmount the temptation to make the best of both worlds, or must live under strict discipline. The evidence collected by the Committee's investigators places many permanent night workers, whether judged by the test of output or of lost time, in an unfavourable light in comparison with day workers, and the explanation is probably contained in the preceding sentences. (p. 27.)

50. The Committee believe that this inferiority of the continuous night worker may ultimately be referred to a failure to secure proper rest and sleep in the day time. Women on continuous night work are likely to perform domestic duties which, when they work alternately in the two shifts, is impracticable; and this extra domestic strain may account for the inferior results of their industrial activities. (p. 40.)

British Home Office. Second Interim Report of an Investigation of Industrial Fatigue by Physiological Methods. A. F. Stanley Kent, M. A., D. Sc. (*Oxon.*), *Henry Overton Wills Professor of Physiology in the University of Bristol. London, 1916.*

Seven factories in all have been visited. Investigations were carried on at one of these for a period of three and a half months, shorter periods being devoted to most of the others. Many of the results now presented were obtained during investigations at Factories E and F. The first of these employed about 2,000 hands and was engaged principally in the manufacture of surgical dressings for the army in the field. . . .

The second (Factory F) was an engineering works employing about 600 men, besides many women, and engaged in the manufacture of war material, from turbines for large ships to the steel shields used in the trenches.

Inferior Sleep in the Day Time.—Great Britain.

Male and female labour was employed in both factories, and examples of both will be found in the results. . . .

It is perhaps, unnecessary to emphasize the importance of any means which is capable of giving reliable indications of the development of fatigue in munitions factories, where it is desirable to secure maximum output, but where it is also essential to conserve the health and energies of the workers. (Page 3.)

The Development of Fatigue by Day and by Night.

It not infrequently happens, when the demand for output is great, that machinery has to be kept running continuously. Accordingly, it is important to know whether the development of fatigue in the worker runs a similar course by night and by day.

In order to obtain information on this point, experiments were carried out on five men employed in the room in which surgical lint is made. . . . The cotton cloth, previously woven, is passed through machines in which it is acted upon by moving knives in such a way as to raise on the surface a fine down familiar as a characteristic of the material.

The work is carried on in a room on the ground floor. Up to Christmas, 1915, there were 104 machines at work in the room. Twenty new machines have been installed recently. Owing to the pressure of so many machines the noise is always great. Temperature is normal and ventilation fair, but much fluff is always present. The machines are of two types, those taking slightly over 9 hours to finish a piece of cloth, and those taking only 8 hours. The length of a piece of cloth is 40 yards.

The staff of the room consists of six men and two foremen. Each man superintends about 20 machines. (Page 16.)

The hours worked in this room are 6 a.m. to 6 p.m. and 6 p.m. to 6 a.m. in alternate weeks. Thus, the men work day and night shifts in alternate weeks, and the same men were examined, first when working on a day shift, and afterwards when working on a night shift.

Inferior Sleep in the Day Time.—Great Britain.

The tests employed were Reaction Time (Colours), Hearing and Sight. The results obtained have been averaged both with regard to the tests made and also with regard to the five men examined.

The chart shows the results of tests which extended over a period of nearly two weeks. The first week shows the development of fatigue, as indicated by these tests, during a period of day labour. The second week shows the development of fatigue during a period of labour by night. A fall in the line indicates the development of fatigue.

The degree of fatigue developed was greater during the night shift than during the day. (Page 16.)

In attempting to find an explanation of this fact, it must be remembered that the men working on a night shift are compelled to get their sleep in the day time, and though this may not be difficult under favourable circumstances, it is by no means easy in a workman's home. Indeed, every one of the men examined stated that he slept well by night, but badly by day. Probably, therefore, one of the reasons of the development of extra fatigue by men working on night duty is the inadequacy of the rest obtained by day.

This is a good example of the importance of home conditions in an investigation of industrial fatigue.

Those familiar with the conditions will scarcely accept the suggestion that the work performed at night is more severe and exhausting than that done by day, for indeed the reverse is probably the case.

There is another factor which is important. The vital functions of the body are at their lowest in the early morning, and although there is apparently an attempt at an adjustment when the ordinary uses of day and night are reversed, yet this adjustment takes an appreciable time for its development, so that at the beginning of the period its influence would not be felt. Indeed, it may be that in the gradual development of this adjustment there is an explanation of the fact that the fatigue revealed is severe at the commencement of the period of night work, and becomes lessened as the week progresses and the

above-mentioned adjustment attains completion. (Page 17.)

Under ordinary circumstances labour is performed in tasks of definite length, separated by intervals for rest. Under ideal conditions rest intervals would occur sufficiently often and would be sufficiently prolonged to ensure that a perfect recovery should be attained after the performance of every task.

An investigation of the manner in which recovery from fatigue comes about is rendered complicated by the fact that neither work nor rest ever holds the field to the exclusion of its opposite. Hardly ever does an individual work with all his might for more than a few minutes at a time. Very seldom does an individual in ordinary health resign himself to absolute repose unless asleep. (Pages 17-18.)

In the worker, the power of recovery is determined primarily by his general physical development, state of health and nutrition, freedom from staleness and fatigue. These factors vary from day to day, and differences are found between different workers. The power of recovery is greater at the beginning, less at the end of a period of labour, and this is true also for the day and week. The curves show that towards the end of a period of labour, towards the end of a day, and towards the end of a week a given amount of labor produces a greater amount of fatigue than at other times; if it is true also that at these times the power of recovery is at its lowest, it necessarily follows that the fatigue accumulated will be at its maximum.

Further, a lengthened period, caused by the abolition of rest-intervals, a lengthened day, caused by the introduction of overtime, and a lengthened week, caused by an interference with the week-end rest, will lead to a still more rapid production of fatigue and a still less perfect recovery. Even the distribution of the overtime days will affect the result. (Page 21.)

Labour performed at night may be regarded as analogous to overtime labour. It is performed at unusual hours. Its effect in producing fatigue may be

greater than a similar task performed during the day. This effect appears to be modified after the night work has been in progress for some days, owing to an adaptation of the normal diurnal variations of the worker to the new conditions. For this reason a weekly change from day shift to night shift and vice versa appears to be unduly frequent. The difficulty of obtaining satisfactory sleep by day affects the result. (Page 22.)

Mothers and Nightwork. MARY E. MCDOWELL, *Head Resident, University of Chicago Settlement. The Survey, Dec. 22, 1917.*

"Imperative necessity has revived, after almost a century of disuse, the night employment of women in factories," the English report of the Health of Munition Workers reminds us. This work was banished by international agreement from twelve European countries, who signed the convention drawn up at the international conference held at Berne in 1906. This agreement was based upon results of inquiries into the effects economical, physical and moral, of night work for women. Eight of our states, Massachusetts, New York, Pennsylvania, Indiana, Nebraska, Delaware, Wisconsin and Oregon, have shown their consciousness of the subject by enacting laws prohibiting night work for women.

These half forgotten facts have peculiar significance to the people of the United States, now that the industrial pressure of war-time is upon us. And they have been brought home to us here by the reality of a concrete experience. Mothers of young children under school age, who are your near neighbors, working all night and having sleepless days—this is a challenge which cannot be ignored. We could not rest, knowing that at this critical time many mothers were living a life without the sleep and rest that is essential for maintaining them in health.

Accordingly, a study of forty-six mothers who have been doing night work in the packing houses, putting up food for the armies of our country as well as for the

allies, was made by one of the staff of the University of Chicago Settlement. Our hope was that even a few facts secured might bring home to the employers the information that we as neighbors already had had impressed upon us.

The chief purposes of this study were to find out how many hours of sleep the women were able to get during the day after working all night; to find out whether they had children under school age; to discover, if possible, the effects such work had upon the women and upon the family as a whole; and to learn *why* the women worked.

Taking up the number of hours of work and rest, the report reads: "All of the women working at night worked ten hours; from six o'clock in the evening until five-thirty in the morning. This meant that the women had to leave their homes at five-thirty in the evening, and did not return until six in the morning. With the exception of two, all lived within walking distance of their work. And even these walked two miles each way in order to save car-fare."

To make any sort of an estimate as to the number of hours of sleep any woman got after she returned to her family is almost out of the question. When asked the question regarding rest or sleep she would usually laugh aloud or shrug her shoulders, saying: "Sleep! Sleep! I sleep whenever I get time." The hours range from one to three or four. It is not at all surprising that on Monday, Tuesday and Wednesday, the washing and ironing days, most of the women do not sleep at all. "Can't they go to sleep for a few hours after they return to their homes?" has been a question asked quite frequently. They might if there were not a husband who demanded his breakfast at six-thirty, since his daily tasks begin at seven. They might if the babies did not get up at the same time the rest of the family did, or if the older children did not have to go to school. And so mothers with little children must snatch an hour or two while the babies take their morning or afternoon naps, and mothers with children of school age, while the children are at school. On Saturday and Sunday nights

they tried to make up for the sleep they had lost during the remaining five days of the week.

It was found that forty-two out of the forty-six, or about 90 per cent of the women visited, had children under school age, and that twenty-seven out of the forty-six had children in school—children between the ages of six and fourteen years.

Three-fourths of the women had been employed two months or over and about one-third six months or over. How so many of them can endure the length of time they do is beyond human comprehension.

The results of their work are easily seen. The tired-looking faces and expressionless eyes cannot escape the observer's notice. Their high strung nerves, their great irritability at the children's slightest annoyance, need not be explained further, for anyone who has experienced a sleepless night knows what happens to his moods and temper the following day. This irritability comes to light in the factory as well as in the home. Friction between the boss and women is due directly to the latters' weariness, which results in inefficiency of work. Of course, the boss does not know nor can he take time to know, the circumstances under which the women are working. And the women, because of the fact that they do not speak nor understand English, cannot explain.

An announcement has this week been made which makes this study seem eminently worth while. Four of the large packing houses have declared their intention of not hiring any more women with children under school age. This, we feel, is a great and important step forward. For while the problems of these women, shown so clearly by this study, are by no means solved by refusing to let them work, yet if their rest is assured them, their health and strength will be better conserved to meet their many problems. One neighborhood physician had three of these night-working mothers for patients. They seemed very ill, but he said all they needed was sleep, and more sleep, and when this was allowed them they recovered. (p. 335-336.)

Inferior Sleep in the Day Time.—United States.

Secona Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

The chief danger of health from night work is thus due to the inevitable lack of sleep and sunlight. Recuperation from fatigue takes place fully only in sleep, and best, in sleep at night. Hence, night work is, in a word, *against nature.* When exhausting factory work fills the night, and household work most of the day, health must inevitably be sacrificed.

This injury to health is in all the greater, because sleep lost at night by working women is never fully made up by day. For in the first place, sleep in the day time is not equal in recuperative power to sleep at night. Dr. Epstein says, in his work on the "Diseases of Bakers": "Doctors and experts on hygiene are unanimous in declaring that sleep at night can in no wise be replaced by sleep in the day time. Various other medical authorities confirm this opinion. Moreover, quiet and privacy for sleep by day is almost impossible to secure. Upon returning home in the middle of the night or at dawn the workers can snatch at most only a few hours' rest."

We have seen that the married women who worked on night shift had on an average only about four and one-half hours of sleep in the day time.

"The hours of sleep varied with the individual," continues the investigator. "Some slept an hour or two in the morning, and for a time in the afternoon; others slept at intervals of about an hour each during the day. They all slept in bedrooms which had been occupied during the night by husband and children." (Page 195.)

Report of the Bureau of Statistics of Labor of New Jersey, 1901.

They (the men) are to a great extent victims of insomnia, being unable to sleep in the daytime after night

work and can not enjoy a sound night's sleep in the week of their day work; the men in consequence, become nervous and depressed. The irregular meals, hurriedly partaken of, disorder the stomach and seriously affect all the organs of digestion, and thus a great deal of time is lost from illness.

Interviews with a large number of the blowers show that with many sound sleep is out of the question; they may doze fitfully for two or three hours, but the street noises which begin with dawn arouse them, and they can not get to sleep again, and arise unrested and unrefreshed. (Page 355.)

Bulletin of the New York State Department of Labor, No. 30. September, 1906.

In Europe the subject has been discussed as part of the question of rest. In European legislatures and international congresses the prohibition of women's night work has been urged as necessary to secure to working women their normal rest, and also on grounds of morality. Women have less physical strength and are more subject to over-fatigue than men, and this is especially true of night workers because household duties prevent women who work at night time from obtaining their necessary rest in the day time. While the women's work in the industrial employments is more extensive abroad than in the United States, the line is drawn on night work in all the leading commercial nations. (Pages 337-338.)

United States Congress. Senate Document No. 645. Report on Condition of Women and Child Wage-Earners in the United States. Vol. I. Cotton Textile Industry. 61st Congress, 2nd Session, 1910.

In visiting families of cotton-mill operatives who worked at night, night workers were often found sitting

drowsily before a scant fire between 9 and 11 o'clock in the morning. They had begun work the night before at 6, had quit at 6 a. m., and at 11 o'clock they had had no sleep. Usually they arose at 4 or 5 in the afternoon and again took their seats before the fire, too weary and sluggish to think of a walk in the open air. Even when they went to bed early in the morning sleep was not continuous throughout the day, nor could it be sound sleep. In the small houses, with thin wood partitions, every sound in the house can be heard by the night worker, even though he may sleep in a separate room. Moreover, night workers often sleep in the same room occupied by the non-workers during the day. The non-workers frequently include children and the room can not be kept quiet.

In cases where both the mother and father worked at night, the mother nearly always did her housework, including her washing and ironing. This means that on one day at least the mother went from 18 to 24 hours without sleeping. One woman, who gave as her reason for working at night that she could take care of her home, garden, cow, and boy during the day, was found at 11 in the morning hanging up her clothes. She had had no sleep during the preceding 24 hours. (Pages 289-290.)

Mill No. 1, North Carolina: The night workers say they prefer night work to day work, yet there can be no question that it is far more injurious, for they seldom attempt to get as much sleep as they would get at night. The boys often spend the whole morning in hunting; then, after three or four hours' sleep in the afternoon, they go back to work in the mill for 11⅓ hours at night. The girls sit around the house, not going to bed until 10 or 11 o'clock in the morning, and get up about 4 in the afternoon. In the small crowded houses sound sleep is impossible during the day. The mill demands an extra half day's work on Saturday from its night workers. They quit at 6 o'clock in the morning and return again at noon. Taking out the time for breakfast and dinner, this allows at the most 4 hours of sleep out of 24. This

means, for women and children especially, working beyond their strength. They have all reached the point of extreme fatigue by the end of the night. Invariably the answer is given by the workers that it is the Saturday's work that wears them out. (Pages 292-293.)

United States Congress. Senate Document No. 110. Report on Conditions of Employment in the Iron and Steel Industry in the United States. Vol. III. Working Conditions and the Relations of Employers and Employees. 62nd Congress, 1st Session, 1913.

It is a matter of common observation on the part of both the men and the superintendents that the men who work at night are very much more apt to be tired and out of condition when they come to work. In a letter received from one of the large steel companies during the present investigation this matter is stated as follows: The theory of the superintendents is that men working on the night turn do not sleep so well as men working on the day turn, and they are not so fit for service immediately after coming on duty. (Page 383.)

Bulletin of the United States Bureau of Labor Statistics, No. 117. April, 1913. Prohibition of Night Work of Young Persons.

Whether night work is quantitatively and qualitatively superior or inferior to day work is a very controversial question, the answer to which varies from industry to industry and from establishment to establishment.

The opinion of an author favorable to employers . . . . . will therefore be of value. He says: . . . . . The glass workers whom I have interrogated on this subject are unanimous and decided in their opposition to night work, and give the following reasons for their point of view:

Inferior Sleep in the Day Time.—Germany.

Sleep during the day is not as recuperative as sleep during the night, especially in summer on account of the heat. We are consequently less fresh and less ready for work when we begin work and we are more tired and exhausted in the morning after night work. (Pages 15-16.)

In Sweden 51 physicians intrusted by law with the supervision of young persons, declared in a royal commission established to revise the existing labor legislation as follows:

Night work, which is fatiguing even to adult workers must be pernicious for health and physical development of young persons; it is a crime against hygiene and dissipation of social capital to allow night work. The actual law is too generous in granting night work of young persons as compared with its other prescriptions; sleep and rest are too irregular and insufficient after night work; the result of the conditions of life of young persons employed during the night is the impossibility of sleep during the day; health and appetite are thus injured and in a great measure the amount of the blood corpuscles is impaired. (Page 16.)

Handbuch der Hygiene. Band 7. Besonderer Teil. 3 Abt. Edited by Dr. Theodor Weyl. *Hygiene der Müller, Bäcker und Conditoren.* [*Hygienic Conditions among Millers, Bakers and Confectioners.*] Dr. I. Zadek, *Physician in Berlin. Jena, Fischer, 1896.*

These conditions (long hours and night work) intensify enormously the evils that I have mentioned as existing in the miller's, the baker's, and the confectioner's trades. In fact, they are really responsible for the greater number of the accidents and injuries to health arising from their conditions of work, the strain to which they are subjected, and the breathing of dust and hot, suffocating air. Besides all this there is the lack of sufficient time for recuperation and especially the impossibil-

ity of obtaining enough sleep in the daytime—and without this the recovery of the physical equilibrium is quite impossible, especially in trades which, like that of the bakers, make very great demands upon the muscular and nervous systems. . . .

"Sleep lost at night can, it is true, be made up in the daytime, but in order to obtain the same refreshment that one obtains after an adequate night's sleep the body needs a longer period of rest, since, because of the noise, the light, and, in summer, the heat, day sleep is not as deep as night sleep."* (Page 490.)

The most important demand that has to be made for the purpose of remedying the hygienic evils of this trade is the demand for the restriction of nightwork. The experience of other countries (Norway, Australia, Scotland, etc.) shows that complete abolition of nightwork in the baking business is practicable. (Page 512.)

Das Verbot der Nachtarbeit. [*Prohibition of Night Work.*] *Report presented to the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft, Vol. XXV. 1901*

In the forefront of the effects of night work upon health stands, to our mind, the loss of night rest. Sleep at night is certainly far preferable to sleep by day. It is—as every one knows from his own experience—much deeper, heavier, more refreshing, in a word more restorative.

The inadequacy of day sleep is aggravated, for the men who work at night, by special circumstances affecting both its quantity and its quality. Consider first the case of the grown men. We find from personal observation and inquiry that living conditions and family habits

* Drucksachen der Kommission für Arbeiterstatistik, Nr. 3. Gutachten des Reichsgesundheitsamtes über den Einfluss der Beschäftigung der Bäckergesellen und Lehrlinge auf dessen Gesundheit.

and occupations all have their part in the result. The laborers' dwellings are generally small, noisy and not well protected from the weather; and the laborer has not the chance that the rich man has to find out a cool and quiet room, darkened for his mid-day nap, but has to put up often with the one room that the family possesses—a room in which all the regular activities of the home are going on, and sometimes tenement industries as well. (Page 1259.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Interdiction du Travail de Nuit des Femmes en Allemagne.* DR. MAX HIRSCH. *Jena, Fischer, 1903.*

Night work not only has certain evil consequences, it is itself an evil thing, and what is more, is contrary to nature. It is natural for man to work during the day and rest at night. . . . Night work is more difficult, more exhausting, and—to repeat—is less productive than day work. And furthermore sleep during the day is less recreative and less strengthening than sleep at night. Thus we ought to say that night work is not only contrary to nature, it is also contrary to civilization; it is a reversal of the natural order of day and night, a consequence not of a state of higher culture, but rather of insufficient education and excessive activity.

Such violations of the laws of nature bring on their own penalties. . . . In a multitude of maladies and infirmities, as also in a general depression and in a premature exhaustion, in a moral, intellectual and social retrogression and degeneracy we see the effects of that unnatural condition, night work. (Pages 20-21.)

Inferior Sleep in the Day Time.—Germany.

Grenzfragen des Nerven und Seelenlebens. Bd. VI. [*Borderland Problems of Nervous and Psychic Life. Vol. VI.*] *Edited by* LOEWENFELD *and* KURELLA. *Über die geistige Arbeitskraft und ihre Hygiene.* DR. L. LOEWENFELD. *Wiesbaden, Bergmann, 1906.*

It is noteworthy that complete deprivation of sleep induces a deterioration of mental efficiency that is by no means as quickly repaired as is commonly supposed. Kraepelin demonstrated that the unfavorable effects of one entire night of wakefulness were evident, in gradually diminishing proportion, for four whole days. The person on whom he made this experiment was himself not conscious of the duration of this depression of mental ability; it was proved solely by repeated tests. (Pages 34-35.)

A true estimate of the value of normal, physiologically sufficient sleep is often only realized, when a sleep deficit has made itself noticeable, and efforts then made to repair the deficit are often fruitless: sleep remains permanently reduced, a circumstance that should stand as a warning against disturbances to sleep. (Pages 55-56.)

Damage to sleep is exceedingly frequent, and is of many degrees; especially is this the case with night workers. In a part of the cases the damage inflicted upon sleep is solely or chiefly, qualitative. The sleeping time is not notably decreased, but the sleep displays its refreshing, nerve-restoring power only in a very limited degree. It is restless, not sound. That deep sleep, which is of such great potency for the repair of energy consumed in the waking hours, may only fall late, and for a brief time, or may be absent entirely. In other cases the sleeping time may be considerably or even greatly reduced. Sometimes the falling to sleep is prevented by trains of thought; sometimes the first sleep is broken and long wakefulness comes on before a final sleep can be enjoyed. It is conceivable that the results of mental exertion are so much the more ruinous, ac-

cording as overexertion has been long practiced upon a sleep-deficit. So, finally, conditions of nervous disorder develop which not only destroy the capacity to work but signify various nervous diseases. (Page 46.)

The injurious effect of artificial light on the eyes is, according to my observations, of vastly less importance than the effect of night work on sleep. . . . In the inferior restorative power of this sleep (by day) lies the crowning mischief of night work. . . . The injurious results of night work per se are markedly increased by the consumption of artificial stimulating drinks such as tea and coffee which are often resorted to. (Page 51.)

Handbuch der Arbeiterkrankungen. [*Handbook of Diseases among Working People.*] *Die Krankheiten der Bäcker.* [*Diseases of Bakers.*] DR. EPSTEIN. *Jena, Fischer, 1908.*

The long hours of work which alone would suffice to bring on grave disturbances to health, take place for the bakers, in that part of the twenty-four hours which nature has destined for rest. Doctors and hygienists are unanimous in agreeing that day rest cannot take the place of night rest, and continued disregard of the need of sleep is sure to end in ruined health. It is clear also that this impairment of health is shown not by special diseases, but by a general weakening of the organism, the resistance to normal or pathological excitations being broken down. We find in the case of fatigue the same process as in the case of chronic industrial intoxications—lead poisoning, for example. The most recent researches on the subject of exhaustion show that it really is a matter of chemical intoxications. More thorough study of the matter would certainly throw a new light on the hitherto dark problem of the pathology of industrial diseases. (Page 477.)

The prohibition of nightwork and the reduction of the hours of work would be a great aid to the physicians

in the fight they have to wage so indefatigably against this common poison (alcoholism). (Page 493.)

Grundriss der sozialen Hygiene, für Mediziner, Nationalökonomen, Verwaltungsbeamte und Sozialreformer. [*Outline of Social Hygiene, for Physicians, Economists, Administrative Officials and Social Reformers.*] Dr. Alfons Fischer. *Berlin, Julius Springer, 1913.*

The dangers to health that are involved in night work ought to be recognizable at first glance. Work by artificial light demands closer attention and is more troublesome than work by daylight; besides, sleep in the quiet night is more effective than sleep during the noisy day. The Soling physician, Dr. Röpke, gives this as his opinion, based upon his experience with workingmen in rolling-mills and foundries. (Page 225.)

Zur Frage der Nachtarbeit in den Bäckereien. Mitgeteilt von der Sozialen Käuferliga. Antworten der Herren Amtsärtze. [*The Question of Nightwork in Bakeries. Swiss Consumers' League. Replies from doctors holding official positions.*] Dr. Müller, *Municipal Physician of the City of Zürich. Zeitschrift für schweizerische Statistik, 17. Jahrgang, 1911.*

The baker works at a time which is devoted by other men to sleep, and sometimes also to education; he sleeps when all around him are at work; his sleep comes at a very noisy time, and it goes without saying that it cannot be as refreshing as the sleep one gets when all is still. . . . Under such circumstances it is a matter of course that a great many bakers should have nervous affections, that cultural ambitions should make little headway among them, and that alcoholism should find them an easy prey.

Inferior Sleep in the Day Time.—Austria.

. . . Where health of body and soul suffer, it is very probable that the product of labor suffers also. (Page 291.)

Le Travail de Nuit des Femmes dans l'Industrie; Rapports sur son importance et sa réglementations légale. [*Night Work of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes dans l'Industrie en Autriche.* ILSE VON ARLT. *Jena, Fischer, 1903.*

Tasks accomplished at night are injurious to health because in our climate, the night is obviously the time intended for repose, and because night work requires correspondingly greater effort than that done by day.

We are not able to explain the reason for this greater weariness, but it is a matter of practical knowledge, the accuracy of which can not be doubted, that in every kind of occupation involving night work, the sleep obtained in daytime, even if equal in the number of hours, does not compensate in its quality for the refreshing and beneficial sleep of the night. We may add to this, that it is much more difficult for working women to obtain complete and absolute rest by day than it is for men. Finally, it has been proved, that no matter what the character of night work may be, the artificial light is detrimental to health; and from the moral standpoint the absence from home during night hours is bad. (Page 82.)

Royaume de Belgique. Bureau de Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

As to the effect of prohibiting night work there is one improvement which is everywhere without exception ad-

mitted: the legal prohibition of night work has been an incalculable benefit to women—for married women especially—with respect to their health.

Let it be recalled what in fact is the life of the mother of a family who spends her nights in a factory. In order to show its character it is only necessary to take at random some of the depositions collected by that French *Commission d'enquête* (Committee of Investigation) whose work formed the basis of the legislation of 1892; I can not imagine that any one can read them without depression.

One of the deponents said: "The women who have worked at night return home and busy themselves with housework instead of resting themselves. They go to bed at 8 or 9 o'clock. They arise at 11 o'clock to get dinner, and go back to bed at one o'clock and sleep until 5. The sleep of these women does not exceed five hours, and it is an interrupted sleep. A woman who has worked for ten years at night is more nearly worn out than a woman who has worked for twenty years during the day." (Page 37.)

L'Interdiction du Travail de Nuit des Femmes dans L'Industrie Française. [*The Prohibition of Nightwork for Women in French Industry.*] A. Chazal. *Paris, Pedone, 1902.*

One must give respectful heed to the opinions of these high medical authorities. In fact, sleep at night is always better than sleep during the day; it is more refreshing. Are women who have worked at night able to secure sleep during the day? This will depend on circumstances. Sometimes night work will consist of overtime work, which will be added to the work of the day, as in overtime. In such a case the working woman returns home obliged to arise early the next morning, and thus finds it impossible to recover by sleep during the day the strength used up at night. Some women thus become so overworked that they cannot sleep at all. M.

Inferior Sleep in the Day Time.—France.

Lagard, divisional inspector of the 10th district at Marseilles tells us that in the course of an inquiry made by the woman inspector of work in the dress-making shops of the city of Marseilles, many women complained that after a certain number of evenings of overtime work they could not sleep well.

Overcome by fatigue, they would succeed in slumbering a few hours in the morning before going back to their work. Consequently they lacked a part of the seven or eight hours of sleep absolutely necessary for the refreshment of an adult. Such nights, succeeding well-filled days bringing exhaustion, lead to insomnia with all the troubles which follow it. Sleep is so important from the hygienic point of view, that there is perhaps no function which should be more carefully preserved. Anything which compromises healthy sleep constitutes a danger because it upsets the equilibrium of the nervous system. (Pages 11-13.)

Le Travail de Nuit des Femmes. [*Night Work of Women.*] Georges Alfassa. *La Revue de Paris, Sept.-Oct., 1904.*

The night is intended by Nature for rest. All vital functions then relax their activity, and it is a truism that daytime sleep is less restorative than that of the night. Whoever turns night into day and day into night is certain sooner or later to suffer for this unnatural habit.

As a matter of actual fact, night work for women verges closely on entire deprivation of sleep. Returning to her home, at 6 a.m. the worker must break in upon her sleep, to take her meals. The house is noisy, children clamor, people come and go. She has scarcely five hours of uninterrupted rest, often not that. Wearied and unrefreshed she goes out to take some air.

An employer on a large scale voluntarily gave up night work because he saw his tired workers on the street in the afternoon, walking up and down, and afterwards

found them, worn out by fatigue, asleep at their work. (Page. 367.)

Ministère du Travail et de la Prévoyance Sociale. Conseil Supérieur du Travail. [*Department of Labor and Social Welfare. Higher Council of Labor.*] *Le Travail de Nuit dans la Boulangerie.* [*Night Work in Bakeries.*] *Paris, 1911.*

This deprivation of sun and light through all the days of the year would alone suffice to make the conditions harmful under which the workman is placed . . . and because he works under harder conditions than other men, because he is more debilitated and depressed, because he performs his task in an abnormal fashion,—just because, in short, he needs more rest than anyone else, he cannot get as much as anyone else. All this takes place in logical sequence. The baker works when other men sleep; he sleeps when others are working. Hence it is difficult, if not impossible for him to obtain efficacious rest. He goes to bed, in the morning, at the very hour of the day when the noise and activity in the street are most intense, when all the housewives in the building are performing their household duties, when the sewing-machines are humming, when the nearby work-shop and foundry are resounding with the noise of motors and the hammering of metals. (Page 3.)

Ministero di agricoltura, industria e commercio. Ufficio del lavoro. [*Department of Agriculture, Industry and Commerce. Bureau of Labor.*] *Inchiesta sul lavoro notturno dei fornai.* [*An Investigation of Night Work in Bakeries.*] *Rome, 1906.*

(c) Sleep in the day-time does not restore the strength of the organism. The reason for this is obvious; it lies in the continuance of auditory and visual stimuli. This

prevents the complete suspension of the vigilance of the senses, and hence total rest of the nervous system and total relaxation of the muscles are out of the question. The result is that sense of great weariness, of having "gone to pieces," that exhaustion, or rather chronic fatigue, which is found among all laborers who work at night and sleep in the day-time. This constant feeling of fatigue joins forces with the lack of sunlight to prevent the perfect assimilation of food and consequently the proper nourishment of the body. Moreover, the digestive organs, already weakened by the habit of irregular meals (another result of the hours of labor), are further impaired by the bad diet and the excessive drinking and smoking to which the workmen are impelled as a refuge from their continual state of languor. (Page 14.)

2. The Function and Value of Sleep.

Sleep is physiologically indispensable. Animal experimentation has proved that death results far more quickly from deprivation of sleep than from starvation.

The nature of fatigue explains the supreme value of sleep. Physiology teaches that life itself depends upon the two chemical processes constantly carried on in the human body and known as metabolism: assimilation or building up; dissimilation or breaking down material into simpler chemical forms, ultimately to be expelled from the body as waste products. These wastes are poisonous impurities, arising from the chemical processes of cellular life, and fatigue is due largely to their accumulation in the blood.

During activity and work the products of chemical change increase. Some idea of the combustion or chemical process carried on within our muscles is shown by the fact that at every breath, air inspired loses about one-fifth of its oxygen, and increases in the gas carbon dioxide more than one hundred fold.

A well known scientific experiment has shown that during a day of work a man expired almost twice as much carbon dioxide as during a day of rest. The internal combustion is more active. But during rest at night, the processes of tissue repair are in the ascendant. The noxious products of activity are more quickly eliminated and tissue is rebuilt. This is the main reason why loss of sleep is detrimental to the organism. It is also

the reason why nightwork, inevitably resulting in loss of sleep at night, seldom compensated by day, is necessarily injurious.

Fatigue. Frederic S. Lee, *Professor of Physiology, Columbia University. Harvey Lectures, 1905-1906. Philadelphia, Lippincott, 1908.*

Mankind at present can administer no food or drug that can push the wearied cells up the metabolic grade either simultaneously with their descent, or quickly after the descent has ceased.

Only the assimilation and detoxication that normally come with rest, and best, rest with sleep, are capable of adequate restoring power. (Page 179.)

The Human Mechanism. Theodore Hough *and* William T. Sedgwick. *Boston, Ginn & Co., 1906.*

The Care of the Nervous Machinery. Rest and Sleep.

If a locomotive is to be kept in a state of high efficiency, it must not be worked without cessation until something goes wrong. When a train is to be pulled three hundred miles it is customary to change engines two or three times on the run; and these changes are made, not because the first engine cannot pull the train to its destination on schedule time, but because heating occurs, or dust finds its way into the bearings, or the strains and jars impair adjustment; and it prolongs the life of the machine and its good working to remove the dust, cool the parts, and otherwise frequently put the engine in perfect order. When an engine breaks down, it is usually because some one part has given way. With proper care a good engine should wear out but not break down.

The central nervous system, although infinitely more complicated than the steam locomotive, is far less dur-

able as a mechanism. Its bearings are not made of hard steel, but of living, irritable protoplasm keenly susceptible to fatigue. In the numerous connections between neuron and neuron, there is the same chance as in the steam engine that some one part will fail to do its work; *and the main principle of its hygienic care is to oil the bearings and clean and repair the machinery, by repose and sleep, before the danger of a break down is imminent.* Rest, and especially the rest of sleep, is the one preventative for these unfavorable conditions; by this alone is the fatigued neuron withdrawn from work and given the chance to repair itself and to return to its normal condition. (Page 339.)

Sleep is the very best means of insuring local nervous repair because it is the only condition which involves complete relaxation. (Page 340.)

Health and Disease. Their Determining Factors. Roger I. Lee, M. D. Professor of Hygiene in Harvard University; Visiting Physician, Massachusetts General Hospital. Boston, Little, Brown & Co., 1917.

Sleep. The best antidote for work and its accompanying fatigue is rest and the best form of rest is sleep. . . . Going without sleep has a greater effect upon the nervous and mental states than upon the physical. Experiments have been conducted in which people were kept awake for a long time—anywhere from three to ten days. The usual rate was that after about three days the subjects would actually go to sleep with their eyes open, and some of the subjects would develop a condition closely resembling acute insanity. (p. 107.)

British Sessional Papers. Vol. XXVI. 1912. Report of the Departmental Committee on the Night Employment of Male Young Persons in Factories and Workshops.

(d) Sound continuous sleep is not so easily obtained during the day as it is at night, especially where the boys live in one-roomed houses, as is common in certain districts.

(e) The fatigue due to night work is probably greater than that due to day work of the same kind.

(f) Night work involves irregular meals; the boy so employed generally misses the mid-day meal at home, and the food he takes with him to eat in the factory at night is apt to be less wholesome than that he gets at home during the day. (Page 9.)

On Health, Fatigue and Repose. WILLIAM STIRLING, M.D., *Professor of Physiology, University of Manchester. British Medical Journal, December 6, 1913.*

Respiration or breathing is a more fundamental function than the circulation of the blood. All animals breathe, but not all animals have blood or a heart. The beating of the heart goes on before birth, and the cessation of its beat marks the cessation of life itself. How is it the body—a harp of a thousand strings—keeps in tune so long? The secret is to be found in rhythm. Heart and diaphragm beat and contract rhythmically, and after each beat there comes a pause which permits of restitution of matter and energy, and gives time for the waste products to be removed, and thus leaves both muscles recuperated to begin a new beat. The heart rests, or is not in action, three-quarters of its time; the act of expiration is chiefly due to mechanical causes; inspiration is chiefly a muscular act. We must acknowledge the necessity as well as the universality of rhythm. What is sleep but the quiescent period of our nerve cells? It is

more, for we say, with Macbeth, that it is chief nourisher in life's feast. The nerve cells, though resting, are storing up matter, and are being flushed and cleaned. Some folks indulge in what they are pleased to call a "spring cleaning". Well, our brain cells should have what corresponds to a spring cleaning every twenty-four hours. (Page 1474.)

Sleep. Marie De Manaceine. *London, Walter Scott, 1907.*

In the following chapters we shall often find evidence of the truth of the statement that sleep is the resting time of consciousness. Here I only wish to dwell for a short time on the question whether general sleep is necessary. Considering that not only different organs and tissues, but also various apparatus of the central nervous system are able to perform their functions during sleep, we might conceive doubts as to the necessity of sleep. And such doubts have actually been raised, and sleep declared a useless, foolish, even hurtful habit, (Girondeau). We have, therefore, to inquire whether it is possible to do without sleep.

To this question we can give a positive answer, for want of sleep is not even so well borne by animals as want of food. Direct experiment has shown that animals entirely deprived of food for twenty days, and which have then lost more than half their weight, may yet escape death if fed with precaution—that is to say, in small amounts often repeated. On the other hand, I have found by experimenting on ten puppies that the complete deprivation of sleep for four or five days (96 to 120 hours) causes irreparable lesions in the organism, and in spite of every care the subjects of these experiments could not be saved. Complete absence of sleep during this period is fatal to puppies in spite of the food taken during this time and the younger the puppy, the more quickly he succumbed. In animals deprived of sleep for

a considerable period, we may observe a lowering of temperature and a marked decrease in the number of the red and white corpuscles, the latter no doubt because arrested in the lymphatic channels. During the last days of such an experiment the blood becomes notably thickened, while the red corpuscles and the amount of hæmoglobin are increased. This is due to the fact that eventually the animal refuses to eat or drink, while the kidneys continue to act. At the same time as the temperature of the body begins to fall, the reflex movements that the animals manifest on being pinched become more and more enfeebled and slackened. . . . As a rule, the puppy deprived of sleep for three or four days presents a more pitiful appearance than one which has passed ten or fifteen days without food. I can speak from observation, as I was obliged to make experiments on the results of want of food as well as of sleep, and I became firmly convinced that sleep is more necessary to animals endowed with consciousness than even food.

It is interesting to note that in deprivation of sleep it seems to be the brain that suffers most, while in complete deprivation of food it is the brain which longest preserves its normal weight and constitution, the other organs and tissues undergoing profound modification and remarkable diminution in volume. Judging from experiments on puppies from two to four months old, we may conclude that want of sleep acts primarily on the cerebral centers, in which it provokes a series of pathological changes.

These investigations have lately been carried a step further by Professor Patrick and Dr. J. A. Gilbert of the Psychological Laboratory of the University of Iowa. In view of the fact, as they remark, that our knowledge of the physiological and mental effects of enforced abstinence from sleep is solely confined to my experiments on dogs, they resolved to experiment on the human subject.

. . .

Thus, although in man the effects of enforced sleeplessness are less permanently injurious than in dogs, the nature and gravity of these effects are now established.

Empirically they were known in antiquity, as well as in China, where forced deprivation of sleep was a form of torture, and even of capital punishment.

In presence of this inevitable necessity of sleep for beings possessed of a central nervous system, we are forced to conclude that conscious life needs for its accomplishment an expenditure of energy so intense that while it is being effected the process of nutrition and the reconstruction of the tissues cannot be completely carried on, and that sleep—the repose of consciousness—is needed for the plastic nutrition of the organism and the accomplishment of its vegetative life. (Pages 65-69.)

Studies from the Psychological Laboratory of the University of Iowa. On the Effects of Loss of Sleep. Professor G. T. W. Patrick *and* Dr. J. Allen Gilbert. *The Psychological Review, September, 1896.*

The object of the following experiments was to determine some of the physiological and mental effects of enforced abstinence from sleep. . . . It was proposed to keep the subjects awake continuously for about 90 hours, to make a series of physiological and psychological tests upon them at intervals of 6 hours in respect to reaction time, discrimination time, motor ability, memory, attention, etc., to observe secondly, the general effects of insomnia, and finally to observe the depth, character and amount of sleep, following the period of waking.

This plan was successfully carried out with three subjects, the depth of sleep being ascertained, however, in the case of only one. The subjects were in each case constantly attended by either one or two watchers. . . .

The first subject, J. A. G., is a young man of 28 years, assistant professor in the University. He is unmarried, of perfect health, of nervous temperament, of very great vitality and activity. He woke at his usual time on

Wednesday morning, November 27, and remained awake until 12 o'clock Saturday night. The second night he did not feel well and suffered severely from sleepiness. The third night he suffered less. The fourth day and the evening following he felt well and was able to pass his time in his usual occupations. During the last fifty hours, however, he had to be watched closely, and could not be allowed to sit down unoccupied as he showed a tendency to fall asleep immediately. . . .

The most marked effect of the abstinence from sleep was the presence of hallucinations of sight. These were persistent after the second night. The subject complained that the floor was covered with a greasy-looking, molecular layer of rapidly moving or oscillating particles. Often this layer was a foot above the floor and parallel with it and caused the subject trouble in walking, as he would try to step upon it. Later the air was full of these dancing particles which developed into swarms of little bodies like gnats, but colored red, purple, or black. The subject would climb upon a chair to brush them from about the gas jet or stealthily try to touch an imaginary fly on the table with his finger. These phenomena did not move with the movement of the eye and appeared to be true hallucinations centrally caused, but due no doubt to the long and unusual strain put upon the eyes.

Meanwhile the patient's sharpness of vision was not impaired. At no other time has he had hallucinations of sight and they entirely disappeared after sleep. (Pages 469-471.)

The steady increase in the subject's weight during the experiment and the sudden decrease after sleep are noteworthy, and apparently not to be accounted for by accidental circumstances. His average weight during the last 24 hours was 18 ounces greater than the average during the first 24 hours and at 9 o'clock Saturday night the subject weighed 27 ounces more than at 9 o'clock Wednesday morning. During the 10½ hours' sleep, however, which followed the experiment, the subject lost 38

ounces, being 11 ounces more than he had gained during the experiment. In tests with the dynamometer the subject lost slightly and gradually in strength of both grip and pull, regaining all after sleep. On Saturday afternoon, however, the subject made what appeared to be a spurt, in view perhaps of the approaching end and gripped and pulled nearly as much as at the beginning. The reaction time beginning with 122 increased somewhat regularly, reaching its maximum 165 Saturday afternoon, after 81 hours without sleep, and dropped back to the normal immediately after sleep. The discrimination time appears to decrease, but as it does not increase after sleep the result cannot in this case be attributed to loss of sleep.

The acuteness of vision uniformly *increased* throughout the experiment, falling below the normal after sleep. The slight retardation in the increase in the second night corresponds with the period of slight sickness at that time. There is a significant decrease in voluntary motor ability. The decrease in this subject's pulse beat after fatigue by tapping is abnormal and apparently a result of loss of sleep. (Pages 473-474.)

The second subject A. G. S. was a young man of 27 years, instructor in the University, unmarried, quiet and of excellent health. The third subject G. N. B. was a young man of 24 years, of German parentage, stout and perfectly healthy. . . . In the case of these two subjects there was no illness, no hallucinations of sight, and no serious suffering or discomfort. A. G. S. became very sleepy during the last 24 hours and had to be watched constantly. On Friday, at 9 p. m., after a brisk walk in the cool air, his temperature sank to 35.3° Cent. (95.6 F.), but in 15 minutes rose to 36.3° Cent. (97.3 F.). Of the three subjects he was the only one who apparently could not have prolonged the experiment beyond the period of 90 hours without danger. (Pages 474-475.)

We may call special attention to a few of the results. In both subjects we again observe an increase in weight throughout the experiment with decrease after sleep. But with these subjects the decrease is less than the in-

crease. In strength of lift both subjects lose quite regularly and seriously, but regain nearly all after sleep. In the memory tests the results are very marked, especially with G. N. B. His average time in normal time for committing the 18 figures was 134 seconds. No remarkable increase in this time was observed until the expiration of 72 hours. At 9 A. M. Friday, the subject required 960 seconds to commit the first set of figures and failed entirely to commit the third set, working at it for *20 minutes*. At 9 P. M. he could not commit the figures, and having made no progress after 15 minutes he desisted.

The attention could not be held upon the work. A kind of mental lapse would constantly undo the work done. With both subjects energetic "waking up" by means of brisk walking and fresh air was often necessary during the latter time in order to address themselves to these mental tasks. After sleep, A. G. S. easily committed the figures in 88 seconds, and G. N. B. in 106 seconds, this being in both cases the shortest time in which the work was done. In respect to the number of letters named in one minute, there is in each subject a steady decrease with the progress of the insomnia with immediate return to the normal after sleep. In adding numbers, similar results appear in a marked form in the case of A. G. S., but with G. N. B. adding time was affected but slightly. Reaction increases with A. G. S. as with J. A. G., but the reaction time of G. N. B. is not lengthened. In respect to reaction time with discrimination and choice the results are irregular and unsatisfactory. (Pages 476-479.)

Function and Value of Sleep.—Switzerland.

Zur Frage der Nachtarbeit in den Bäckereien. Mitgeteilt von der Sozialen Kauferliga der Schweiz. [*The Question of Night Work in Bakeries. Swiss Consumers' League.*] *Zeitschrift für Schweizerische Statistik, XVII. Jahrgang, Bern, 1911.*

(Letter from Dr. A. Kraft, School Physician of the City of Zürich.)

It is a physiological fact that every one of our bodily organs is fatigued by long-continued activity, and needs rest in order that it may regain its proper elasticity. Even the heart, which appears to be always active, shows on examination a constant quick alternation between work and rest. The brain, like all the other organs, needs recuperation and rest; but the unity of consciousness prevents the possibility of a constant alternation between rest and activity, and so for the refreshment of the brain we have the longer pause of sleep. . . . It has been proved by experiment that deprivation of sleep is very harmful—more harmful than hunger. The wasting of the tissues through hunger is *easier to endure* than the lack of sleep. Bunge tells us that a starving dog loses fifty per cent of its weight before it dies, whereas a dog deprived of sleep dies when it has lost only from five to thirteen per cent. The *brain* of starving animals is found to have kept its normal weight—it is nourished at the expense of other organs; in the case of sleepless animals the brain is the very organ that is found to have suffered most. Sleepless animals suffer a fall in bodily temperature amounting on the second day to something between 0.5° C. and 0.9° C., and in their last hour of life between 4° and 5.8°, and the number of red corpuscles falls from five million to two million. Investigation likewise shows a decrease in blood coloring-matter among night workers. Men as well as animals die sooner of lack of sleep than they do of hunger. We may consider that we have experimental proof, corroborated by much general experience, of the fact that the deprivation of . . . sleep is sure to bring on severe and lasting injuries. . . .

Function and Value of Sleep.—Germany.

It can be shown, and indeed it is obvious on the face of it, that in the day-time one cannot make sure of obtaining a sleeping period of normal length and a sleep of normal depth. The light and the noise of the day, and in summer the heat and other factors besides—these are great hindrances to effective sleep. Thus the night worker cannot utilize the time he has for rest. (Pages 291-292.)

Über Geistige Arbeit. [*Intellectual Work.*] EMIL KRAEPELIN. *Jena, 1897.*

Incomparably the most important means for the repair of fatigue is sleep. Everyone, even the most intellectually barren man, develops an amount of mental activity during the waking hours which cannot be prolonged indefinitely without a breakdown. . . .

If the reparative effects of sleep are insufficient or if sleep is banished the results are inevitably shown the next day in diminished efficiency as well as in an increased sensation of physical fatigue.

An experiment with an adult man showed that the results of mental fatigue after an entire night spent without sleep were plainly demonstrable in a gradually waning degree for four whole days. (Page 20.)

Ermüdung und Erholung. [*Fatigue and Repair.*] PROF. MAX VERWORN. *Berliner Klinische Wochenschrift, Feb. 4, 1901.*

Sleep is that state in which the neurones of the central nervous system recover from fatigue and exhaustion . . . the condition of sleep is physiologically characterized by on one hand, the lowering of disassimilation as a result of the cessation of stimuli, and on the other, the promotion of assimilation due to the self-supplying by the tissues with nutriment during the metabolic processes.

These two characteristics give sleep its enormous importance for the maintenance of the health of the body, and therefore, everything prejudicial to the needful amount of sleep is synonymous with injury to health. Normal physiological sleep can not be replaced or substituted for by anything else. (Page 130.)

Die Volkswirthschaftliche Bedeutung der Verkürzung des Industriellen Arbeitstages. Gesammelte Abhandlungen. Bd. III. [*The Economic Significance of a Shorter Working Day. Complete Works. Vol. III.*] Ernst Abbe. *Papers read before the Economic Society, Jena, 1901. Jena, Fischer, 1906.*

Now, when an activity is repeated daily in the same grooves, in the same form, the individual concerned can keep up this activity day by day only on condition that the fatigue engendered on one day has been completely banished by sufficient rest and proper nutriment before the next day's work is undertaken.

If even the smallest deficit remains after the equalization of fatigue and rest,—a deficit that would not be noticeable on any one single day, but which is added to daily and accumulates little by little, then the inevitable consequence is that, after a more or less prolonged period of time, the individual goes to pieces physically. It is the same as when he spends daily ever so little more than his income. If he keeps this up, there comes a time when he inevitably becomes bankrupt. (Page 226.)

I can therefore say: every workman whose work is done under these labor conditions must be afforded daily recuperation for his expended energies, and the daily compensation of rest and food must wholly equal his average total of exertion. The daily average of fatigue and expended strength must be absolutely balanced by fresh strength and recuperation, because the least deficit will accumulate gradually and will finally have ruinous effects. (Page 226.)

Function and Value of Sleep.—Germany.

Ermüdung durch Berufsarbeit. [*Occupational Fatigue.*] Dr. Emil Roth. *Proceedings of the Fourteenth International Congress of Hygiene and Demography, Berlin, 1907. Vol. II., Sec. IV.*

The increasing use of machinery as a substitute for hand work, and the rapid tendency toward subdivision of labor, are bringing about conditions that are more and more favorable for the employer, but for the worker, on the contrary, harder and less favorable, and especially more monotonous. Therefore, from the point of view of health preservation, it must be considered proper to regulate working hours in accordance with the principles enunciated by Abbé: viz.: The daily supply of energy required for daily labor must be gained by sufficiently long periods of rest and economical use of strength, and must not exceed the expenditure of energy required by the accelerated pace of industry. (Pages 593-594.)

A consideration of all the factors concerned in the study of overwork resulting in over-fatigue, shows that these factors are many. One of the most important of all, from the standpoint of prevention, and in the interest of the workers' health, is this: The intensiveness of the labor, or the relation of the energy expended in fulfilling the work's requirements to the length of time during which energy is so expended, must not overstep a certain fixed limit. That industrial establishments fail notoriously in meeting this first and fundamental requirement of labor protection, admits of no debate. (Page 604.)

Function and Value of Sleep.—Germany.

Handwörterbuch der Staatswissenschaften, Bd. I. Edited by Drs. J. Conrad, *Professor of Political Science in Halle;* L. Elster, *Ober Reg. Rath in Berlin;* W. Lexis, *Professor of Political Science in Göttingen, and* Edg. Loening, *Professor of Law in Halle. Arbeitszeit.* [*Hours of Work.*] Dr. H. Herkner. *Jena, Fischer, 1909.*

We distinguish exhaustion from fatigue.

In exhaustion there is a deficiency of reparative material for the restoration of the vital tissues. This is especially a deficiency of oxygen. During work more oxygen is taken from the red blood corpuscles than can be normally replaced by them from respiration and food. (Verworn.) While fatigue can be banished by rest, exhaustion can only be overcome by fresh supplies of oxygen and organic tissue building material in food. Recuperation takes place in fullest extent only in sleep, as during sleep the consumption of oxygen is diminished. (Page 1214.)

Quotation from Pope Leo XIII. Encyclical on the Labor Problem:

"Justice and Humanity protest against demands upon laboring men, so excessive that the body gives way and the spirit is dulled. As in man all things have their limitations, even so is it with the capacity for labor, and no one can exceed the limits of his powers. . . .

"In general it should be a fixed rule that as much rest should be granted the worker as is needed to restore his strength; for the release from work has the restoration of strength as its purpose."

These declarations are in so far noteworthy that they state with great clearness the fundamental principle that the time for rest after the day's work must allow complete restoration of the expended strength. (Page 1205.)

Function and Value of Sleep.—Italy.

Krankheit und Soziale Lage (*Morbidity and Social Status*). *Edited by* Dr. M. Mosse *and* Dr. G. Tugendreich. *Arbeit bezw. Beruf in ihrem Einfluss auf Krankheit und Sterblichkeit.* (*Influence of Occupation on Morbidity and Mortality*). Dr. Franz Koelsch. *Berlin, Lehmann. 1913.*

The injuries of physical and mental over-strain are to be avoided by pauses of sufficient length at proper times. . . .

The physiological time for recovery is sleep; during healthy sleep the elimination of the fatigue products from the body is most complete; the body awakens with the sense of physical and mental freshness and restored energy. But this absolutely necessary regeneration accomplished in normal sleep does not fully take place in the day-time. "The sleep lost at night can indeed be made up in the day-time, but in the day-time, to secure the same refreshment as in adequate sleep at night, the body requires a longer time of rest, as day-time sleep, in consequence of noise and light, and in summer of greater heat, is not as deep as sleep at night." (Gutachten des Reichsgesundheitsamtes.) According to this, continued night-work is the source of serious damage to health and of premature exhaustion. (Page 159.)

Über die Gesetze der Ermüdung. [*The Laws of Fatigue.*] Dr. Arnaldo Maggiora, *University of Turin. Archiv für Anatomie und Physiologie, 1890. Physiologische Abtheilung.*

My experiments proved that after one whole night's wakefulness the muscles weary much more quickly, so that at 8 a.m. of the following morning the amount of mechanical work obtainable from them is reduced to the half of what it would be under normal circumstances.

In the daytime, after a night without sleep the finger contractions give one contraction of normal or nearly normal size, but the next ones fall off with unusual

rapidity. As in anæmia, the reserve strength may be observed to diminish even though spasmodic or single contractions may be performed.

Mosso has shown that, under such circumstances (nightwork without sleep), not only the irritability but the productive capacity is lessened. The diminution of mechanical work is often more extreme than that caused by anæmia. (Page 226.)

Loss of sleep promotes muscular fatigue for the reason that it brings about a general exhaustion of the organism. The muscles can, it is true, continue to perform some work, but they more quickly give out and the amount of mechanical work they produce is small.

This exhausting effect of loss of sleep is not altered by taking food, but disappears only after a compensating degree of sleep. (Page 227.)

Controindicazioni al Lavoro Notturno. [*Counter-indications of Night Work.*] Dr. Luigi Carozzi. *Proceedings of the First International Congress on Industrial Diseases, Milan, 1906.*

So far as the physiological symptoms are concerned, there is danger in nightwork, and a serious one, danger composed of many elements, which manifests itself in slackened metabolism, a marked general weakening, precocious senility, disturbance of all the organic functions. Activity decreases through fatigue, lack or insufficiency of sleep destroys the possibility of recuperating quickly from the metabolic losses, and of removing the poisonous residues of the process of oxidation in the tissues. The workman who labors at night entirely loses the normal characteristics of sleep, that is, the exclusion of every stimulus and the auto-regulation of metabolism.

Hence, to my mind, it is a mistake to seek the dangers of nightwork in a single cause, as has hitherto been done. Leaving out of account the fact that night is by natural law the time for rest, that during the night the organic functions slacken their activity, that sleep during the day

is less restorative, it must be conceded that the problem is complex and results in complex dangers to the workman. (Page 80.)

Étude sur l'Influence de la Durée du Travail Quotidien sur la Santé générale de l'Adulte. [*Study of the Effect of the Length of Working Hours upon the General Health of Adults.*] ILIA SACHNINE. *Lyon, Waltener et Cie, 1900.*

If work is too prolonged, the accumulation of waste in the system becomes so considerable that it cannot be destroyed or eliminated with sufficient rapidity. The blood stream which bathes the cells and frees them from their toxic wastes, and the glands which perform the functions of elimination require sufficient time for their work. Thus, according to the observations of Lagrange, twelve or even 24 hours are necessary to eliminate waste by the kidneys. Elimination does not begin, however, until at least three hours after work ceases. (Page 154.)

"Rest," said Lagrange, "is the condition indispensable for the elimination of tissue waste, because in a state of rest this waste is less rapidly produced. It is the indispensable condition for the repair of tissues, because the process of assimilation is hindered by the activity of work."

Sleep unites all the perfect conditions of rest. "In this state," said Lagrange, "all muscular tissues relax and the vital organs function more quietly and slowly. Respiration and pulse subside and temperature is lowered. Then, the brain, which is incessantly active while awake, rests during sleep and its circulation is less active. The lowered temperature of sleep is a proof that combustion is less active and waste reduced to a minimum." (Pages 155-156.)

The importance of the regularity of sleep for the worker is borne out by repeated evidence. The normal minimum of sleep according to most hygienists should be at least 8 hours. (Page 156.)

Function and Value of Sleep.—Belgium.

Le Surmenage par Suite du Travail Professional. [*Occupational Fatigue.*] PROF. A. IMBERT. *Proceedings of the Fourteenth International Congress of Hygiene and Demography, Berlin, 1907. Vol. II., Sec. IV.*

Fatigue, essentially and exclusively a physiological phenomenon, characterizes the human organism when the latter is regarded as a working machine. Consequently, even from the economic point of view, the discussion of every question involving the factor of labor in industry is incomplete if the influence and the possible consequences of fatigue are not contemplated. Fatigue, on the other hand, disappears during rest, both as to its causes and effects, if the rest is as much prolonged as the labor has been exacting.

Rest is thus, quite aside from any social or humanitarian consideration, a physiological necessity. . . .

It is physiologically and, one may add, economically essential that the night's rest and the weekly rest should suffice to permit the human organism, which has been subjected to a period of labor, to return to its normal state. If this does not happen, the human machine deteriorates, as complained of by the worker, and the output suffers, which affects the employer, to say nothing of the charges upon society which may result from such deterioration.

Overstrain is present if, after the daily or weekly rest, at the moment of resuming labor, traces of fatigue still remain and the primal and normal productive capacity has not been restored. (Pages 634-635.)

Royaume de Belgique. Conseil Supérieur du Travail, 6e Session, 1901-1902. [*Belgian Higher Council of Labor, 6th Session.*] *Vol. I. Part II. Le Repos Hebdomadaire.* [*The Weekly Rest Day.*]

M. Adolphe Prins (Member of Council):

To-day under present conditions of competition and

production it is more than ever necessary to protect working men from overstrain. Rest is more and more indispensable as work becomes more intense. In every line of activity, only the regular alternation of work and rest is able to conserve energy, and those individuals and nations whose lives are so regulated will surpass others in economic rivalry. (Pages 81-82.)

M. Beco:

The man who works must have rest. Rest must alternate with work; this is a physiological necessity. The workman becomes incapable of any physical or mental work whatever if after a certain number of hours he is not able to rest. The desire for sleep, after a certain time, overcomes him. . . . Then in addition to rest during the day, the worker needs periodic rests. (Page 124.)

M. Denis (Member of Council):

Man has a new right, the right to leisure and rest, as well as work. . . . The history of labor legislation can be given in two words: the right to rest is inherent in man's physiological structure. It involves an inflexible social necessity to do away with the exhaustion resulting from overwork, and to conserve working power, the most precious possession of a nation.

On this the most learned physiologist of Italy has said: "The prodigious development of industry and of machinery is resulting in extreme intensity of labor and the law of exhaustion must of necessity put a limit to greed for gain."

Science traces out a path for the modern lawmaker: his difficult but glorious mission is to accomplish the normal synthesis of these two inalienable rights springing from the very laws of life—the right to employ one's working powers and the right to conserve them. (Page 169.)

Maggiora has demonstrated that in order to obtain the same quantity of muscular work evenly throughout the day, the muscles must, from the outset, have their proper periods of rest, so that they can act each time with fresh

energy and so that fatigue will not accumulate. This accumulation of fatigue is the most important phenomenon to consider now; it arises in the course of the day, from every breach of equilibrium between work accomplished and rest given to the muscles. As soon as work is in excess, or rest is insufficient, there is an accumulation of fatigue, and this, as Maggiora has shown, is displayed by a diminution of effectiveness. What is true of the different hours of the day is true from one day to another. Waste products of fatigue are carried over from one day to another with cumulative effect. Maggiora's writings contain a remarkable chart showing the effects of a sleepless night,—that is a night without repair. From this chart we may gain an idea of the rapid cumulation of waste substances, and the gradual extension of the organic deficit. (Page 174.)

3. The Deprivation of Sunlight.

Workers who are employed at night are inevitably deprived of sunlight. Scientific investigation has proved that the loss of sunlight is injurious in two ways: First, it results in serious physical damage, both to human beings and to animals. Night workers whose blood was examined showed a marked decrease in the red coloring matter, resulting in a state of chronic blood impoverishment. Second, the loss of sunlight favors the growth of bacteria, such as the germs of tuberculosis. Conversely, light destroys bacterial life. It has been called the "cheapest and most universal disinfectant".

Health and Disease. Their Determining Factors. Roger I. Lee, M. D. Professor of Hygiene in Harvard University; Visiting Physician, Massachusetts General Hospital. Boston, Little, Brown & Co., 1917.

Light and the Eyes. While we are accustomed to consider that the rays of the sun have performed their functions when they have given us warmth and light, the sun rays have other very definite powers. Sunlight, for example, is an excellent disinfectant. Furthermore, while the subject is not thoroughly understood, some of the sun rays have peculiar and mysterious influences on the human body. An appreciation of the beneficial effects of the sun rays has led to their use in the treatment of disease,—heliotherapy. In addition, it seems possible that the beneficial effect of outdoor living and sleep may be due, in part, to some mysterious activity of the sun rays. (p. 135.)

Deprivation of Sunlight.—United States.

Report of the New York State Department of Labor, 1909. Report of the Medical Inspector of Factories.

Sunlight is not only a stimulus, increasing the physiological resistance of the body to disease, but it is also a germicide and a factor in proper ventilation and sanitation. Where there is darkness there is dirt, where there is dirt there is disease. (Page 32.)

Ibid., 1910.

Deficient light is an inexcusable sanitary defect. Sunlight is not only an important factor in the question of ventilation and accidents, but also of disease. . . . Sunlight is essential to health. Absence of sunlight means danger from disease. Sunlight and health are synonymous. (Pages 70-71.)

Second Report of the New York Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

It has also been shown that animals kept in the dark without sunlight suffer a loss of the red coloring matter in the blood. The same is found true of night workers who are deprived of sunlight; impoverished blood is one of the main symptoms. This fact was confirmed by an examination of 800 bakers by the investigators of the Commission, described in its Preliminary Report. Night work was found to increase their morbidity and mortality, as well as to upset all the normal habits of social life. (Page 194.)

The Therapeutics of Light. Herbert McIntosh, M.D. *Boston Medical and Surgical Journal, Vol. 163, Dec. 15, 1910.*

Having directed attention to some considerations which should lead us to infer that light should *a priori*

exert a favorable influence upon disturbed bodily conditions, let us briefly sum up some of the physiological effects of light which have been experimentally proved. . . . Light energy is destructive of bacterial life outside the body. Since, however, this destructive action is due chiefly to the ultra violet rays, and these are not highly penetrative, we are not permitted to affirm a directly bactericidal action in the living tissue. I have already pointed out, however, that blood absorbs light, that the tissues fluoresce under the influence of light, and that the hemoglobin gives up its oxygen to the tissues more readily under light exposure. Herein may be perceived the damaging effect of light upon bacteria in the tissues. For as they are anaerobic, the production of oxygen is unfavorable to their growth and the increased activity of tissue combustion produced by light renders the nutrient media in which they live less favorable to their propagation.

The increased absorption of oxygen by the blood under the influence of light leads to increased activity in tissue destruction, and therefore augments the elimination of CO_2. In confirmation of this proposition Molschott, (Wiener Med. Wochenschr, 1885, no. 43), Selmi and Piacentini (Rend. Conti. del Reale Instituto, 1870, vol. iii, Ser. ii, p. 51) have shown that dogs, hens, pigeons and frogs eliminate less carbon dioxide in the dark than in the light. (Page 908.)

Light markedly increases the number of red blood cells. This has been repeatedly demonstrated after an incandescent bath. It also increases the amount of hemoglobin. Under the influence of light, oxyhemoglobin more readily surrenders its oxygen to the tissues, thereby stimulating combustion in the tissues. We have already shown that the solid constituents of the urine are increased, that sweating is promoted and that the elimination of CO_2 is augmented. (Page 909.)

It is very evident, then, that sunlight promotes metabolism. (Page 909.)

Deprivation of Sunlight.—Italy.

Veränderungen des Blutes durch Nachtarbeit. [*Changes in the Blood During Nightwork.*] DR. G. F. GARDENGHI, *Director of the Institute of Hygiene, Parma. Wiener Klinisch-therapeutische Wochenschrift, XIII. 1906.*

That light, sun or daylight, and the deprivation of light have important influences upon the animal and human organism is so well established by innumerable observations that new proofs of the facts might seem to be superfluous. It is also beyond question that this influence affects the blood primarily and in a remarkable manner. . . . For biological, as well as for hygienic and social reasons, I undertook special researches into the effects of night work in this regard. I was the more ready to do so, because my previous observations of bakers working at night had convinced me that the loss of daylight had a distinct influence upon the blood. . . .

In carrying on the research in question by means of living animals the following points were determined experimentally.

I.—Changes in the weight of animals,
II.—Changes in the numbers of white and red blood corpuscles,
III.—Variations in the hemoglobin contents,
IV.—Changes in the store of iron contained in the blood. (Pages 671-672.)

It may be definitely concluded from our experiments, that the deprivation of day light brought about an insufficiency of blood pigments and of iron constituents in the blood of the animals under observation (hypochromemia and hyposiderosis.)

It may be accepted as a positive truth that day and sun-light are of great significance in the production of the blood pigments, (coloring matter) a truth which is generally recognized in regard to the production of chlorophyll. From this there becomes evident a very remarkable correlation between hemoglobin and chlorophyll

—two pigments which modern biological chemistry has recognized as being closely related.

The facts cited are of great importance for the question of night work. In 1899 and 1900 I had made numerous examinations of bakers in Parma—where night work (abolished in the last two years, without injury to business) was then in common practice and I found that, in general, while the number of red blood corpuscles was not materially altered, the amount of hemoglobin (red coloring matter) was seriously affected. Not long ago I had opportunity to make some similar investigation with results that confirmed those reached by Belli and Onimus among the machinists of the French and Italian navies. Belli expressly stated that the loss of day light was the cause of the decrease of the red coloring matter of the blood among stokers and firemen. . . .

We believe we have proved that, under the influence of night work, a decrease in the blood's coloring matter occurs, which after a short time becomes clearly perceptible and remains as a chronic condition of blood impoverishment.

We believe that we are justified in the conclusion that the continuous deprivation of light is the prime cause of the phenomena observed. (Pages 699-700.)

Ministero di agricoltura, industria e commercio. Ufficio del lavoro. [*Department of Agriculture, Industry and Commerce. Bureau of Labor.*] *Inchiesta sul lavoro notturno dei fornai.* [*An Investigation of Night Work in Bakeries.*] *Rome, 1906.*

The worst of the conditions (in bakeries) is the necessity or the custom, of night work. All the circumstances that make night work unhealthy come into play; they may be briefly summarized as follows:

(a) Sunlight is a potent stimulus to all the organic functions, especially to metabolism, or the repair of the tissues—that is the absorption of oxygen and the assimi-

lation of food-stuffs, and the consequent nourishment of the protoplasm. The absence of this stimulus causes hypochromia and hyposiderosis of the blood, or, in other words, deficiency in the formation of haemoglobin and in the absorption of iron—whence the pallor one always sees on the faces of people who work at night or in the dark.

(b) Artificial light, no matter of what kind, does not have the stimulating and tonic quality of natural light; besides, in the bakeries the light is always weak and insufficient and often contributes, along with other factors, to the vitiation of the air. (Page 14.)

Sull' Influenza della Luce Naturale nel Lavoro. [*The Influence of Natural Light upon Labor.*] Dr. L. Bolettino. *Proceedings of the 1st International Congress on Industrial Diseases. Milan, June, 1906.*

Among the many harmful and subtle causes that slowly imperil the health of hundreds of workingmen is what I believe of no little importance—the deficient light in industrial establishments, workshops, manufacturing plants, etc.

Lavoisier says that nature without light would be lifeless.

Light unquestionably exercises beneficent action upon animals, upon the hair, the feathers, and more particularly upon the pigment of the skin. In fact, the skin, is the organ which is most directly affected by the action of luminous rays.

They have a marvellously stimulating effect upon the skin through which many substances—whose presence is deadly poison for the organism—are eliminated from our body. . . .

An eminent French physiologist performed the following experiment, sufficiently convincing to confirm my argument. He placed several tadpoles in two perforated boxes in the Seine, one made of tin, the other of glass.

The tadpoles that remained in the dark box never changed and did not develop either legs or lungs; while those in the glass box reached a state of complete development, changing into perfectly formed frogs.

Dumeril further remarks that, after mutilating the tails of salamanders, they grow again less rapidly in a dark than in a light place.

Dwelling in dark places causes in animals and in man an unavoidable organic decadence, which predisposes to various diseases, justifying the popular saying:—Where the sun does not enter, the Doctor does. (Pages 100-101.)

The great importance of the influence of light upon labor being fully proved and established we must, first prohibit the working of girls in badly lighted places; second, induce the owners of factories to build their establishments so as to be well-lighted and directly exposed to the sun's rays for the greater part of the day; third, abolish night work. (Page 104.)

La Fisiopatologia del Lavoro Notturno e la Legislazione italiana. [*The Physiological Pathology of Night Work and Italian Legislation.*] Dr. Ambrogio Mori, *Assistant at the Pediatric Clinic of the Royal Institute of Research in Florence. Il Ramazzini, Oct.-Nov., 1907.*

The physio-pathology of night work has of late years received not a few contributions from students of social therapeutics: it may in fact, be said that from a purely theoretical point of view no physiologist can deny the dangers of night work, its diminished productive value and the frequency of accidents to which it leads. . . . (Page 621.)

The proof that night work is prejudicial to the health of human beings and that it is in opposition to the normal and physiological exchanges of energy and of biological activity of the organism, has been traced back

by naturalists to the lowest cell formation. "Omnis cellula est cellula", and the "superior" organism—man—is nothing but an aggregate, differentiated in organs and functions from the primary and infinitesimal elementary organisms. It has been endeavored to ascertain the effects of sunlight on protozoa and tissues; and it is shown that sunlight exercised a beneficent influence on physiological changes, in the blood-making function, on the nutrition of the tissues, but is destructive of bacterial life.

Experiments on the influence of sunlight on the blood have been made by many authors. Finally, Gardenghi instituted systematic investigations on various animals, rabbits and guinea-pigs, subjected to the action of light and kept in the dark. The results were uncertain as regards weight, the augment or decrease of leucocytes and the form of the leucocytes; but on the other hand he found that the lack of sunlight produced a deficiency of color and of iron in the blood in the animals under observation. This diminution in hemoglobin has also been observed in examination of the blood of several bakers.

Under the action of light the skin eliminates many toxic principles that might otherwise poison the organism; darkness in fact is unfavorable to animal life and predisposes man to scrofula, tuberculosis, rachitis, hematophilia, scurvy and cretinism. (Page 624.)

Die hygienische Bedeutung des Sonnenlichts. [*The Hygienic Value of Sunlight.*] DR. UFFELMANN. *Wiener Klinik, XV. Jahrgang, 1889.*

Sunlight is the condition upon which all life on the earth depends; it has a very powerful influence upon the development of all organic things. There is therefore from the start an *a priori* certainty that in the field of hygiene also sunlight plays an important part, and in point of fact, investigation shows that in many ways

natural light is very necessary to the health of mankind. (Page 7.)

Although when all is said the connection between disease and lack of light is still far from clear, this much may even now be safely asserted—that to live continually in rooms that are without sunlight cannot possibly be good for the health, and indeed is very likely to injure it. For it may be regarded as proved that the quantity of blood depends upon the light, since darkness reduces the quantity of blood 1/25-1/30 (3.9-3.3%) of the weight of the body in the course of one or two months. There is also a lessening of the amount of haemoglobin. We may safely maintain, therefore, that sunlight is a factor conducive to health, and that lack of light tends to impair the health. (Pages 97-98.)

Über die hygienische Bedeutung des Lichtes. [*The Hygienic Value of Light.*] Dr. W. Kruse. *Zeitschrift für Hygiene und Infectionskrankheiten, XIX. Band, 1895.*

The direct influence of light on the human organism is shown:

(1) in the injury to our visual organs caused by either inadequate or too intense lighting. . . .
(2) in the undeniable, though often not rightly appreciated, influence of light, transmitted through the eye, upon psychic energy, upon temper and mood. Everyone can call to mind from his own experience examples of the strong excitant effect of light. (Page 313.)

It is hardly two decades since we began to make observations of this kind in regard to bacteria, and in the last decade countless investigators have studied the influence of light upon these ubiquitous organisms—so significant to mankind as the cause of all kinds of decomposition and disease. . . . The fundamental fact—

that light exerts a harmful influence upon living bacteria —is easily proved. All one needs to do is to take a trace of bacteria-containing fluid (for instance from a pure culture), and expose it to the direct sunlight, in the form of a suspended drop protected against evaporation. . . . a more practical method (than the one first described) is this of Pausini: expose the suspended drop on a cover-glass which is cemented over the hollowed-out portion of a microscopic slide. I performed such an experiment by exposing to the sunlight anthrax spores deposited in distilled water, and the result shows the powerful influence of sunlight:

Experiment Made June 12, 1890, Naples.

25°C. in the sun (a strong wind blowing).

Length of exposure	Number of colonies in the exposed drops	Number of colonies in the non-exposed drops (under a black bell)
When the experiment was started	8000	....
1 hour	108	....
1½ hours	26	....
2 hours	0	....
3 hours	0	....
4 hours	0	....
5 hours	0	6000

(Page 318)

The disinfectant action of light increases with the increase in intensity. Lighting even though dim, is not a stimulus but a hindrance to the development of bacteria.

Although I have not determined photometrically the intensity of light, I think I am justified in making the

above statement. The influence of light is felt most quickly under the vertical rays of the sun. The only essential difference between the results given by the experiments in our climate and those given by the same experiments in Italy—at least the only essential difference in summer—is due to the fact that we cannot usually count on such continual irradiation as in Italy.

Even diffused light is a fairly powerful enemy to bacteria. The knowledge of this fact has been spread abroad through R. Koch's statement at the international Congress in Berlin. "Cultures of tubercle bacilli if placed at a window die off in from five to seven days." (Pages 320-321.)

Through the influence of light, fluid media containing complicated nitrogenous substances are so changed that they come to have an antiseptic effect on bacteria. This alteration takes place under the influence of the oxygen in the air, and is the more marked according as the illumination is more intense and of longer duration. But the injurious effect of light on bacteria is not to be ascribed simply to alteration of the medium. (Page 327.)

In addition to the alteration of the medium through illumination, we must postulate also an immediate influence of light on the bacteria themselves. (Page 330.)

Light has a deleterious effect on all bacteria, and not only upon their resting stages, but also upon their vegetative forms. This effect shows itself sometimes in a stoppage of growth, or a weakening of the growth or germination energies, sometimes even in the complete extermination of the bacterial cells. By my own experimental research I have succeeded in ascertaining the effect of light on anthrax and typhoid bacilli and on bacilli of glanders, on streptococci and staphylococci, on cholera spirilli, and on anthrax and tetanus spores; experiments have also been performed on tubercle bacilli, septicaemia of mice, colon bacteria, spores from the earth, etc. The different vision fungi succumb to the influence of light with varying degrees of rapidity.

Light also affects the virulence of the pathogenic bacteria. The probability of this influence is clear from all

our experience, for every injury to the bacterial cell seems to impair the force of its infectious properties. Transient or "individual" weakening must here be distinguished from such weakening as is permanent or "inheritable". So far only the former influence of light, and that only in the case of the anthrax bacillus, has been established (by Arloine and Pausini). It has been proved that before their vegetative force was rendered extinct through illumination, these bacilli became, in their action on animals, first less virulent and finally quite harmless. (Page 331.)

The considerations I have adduced show that light is hygienically important for the following reasons:

In the first place the influence of quantity of illumination on the visual organ and its function is unquestioned.

The effect of daylight on the spirits is likewise indisputable.

In the third place, the influence of light on chlorophyllous vegetation, especially on bacteria, is of interest from the point of view of hygiene, since light is clearly the cheapest and most universal disinfectant we possess for our living places and homes. (Page 332.)

Das Verbot der Nachtarbeit. [*The Prohibition of Night Work.*] *Report at the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich, Vol. XXV. 1901.*

Scientists are not agreed as to the precise physiological causes of its (nightwork's) damage to health. . . . Prof. Uffelmann of Rostock states as to sunlight: "It may be accepted as undeniable that lack of light retards tissue change (metabolism) and that sunlight promotes it, and also that sunlight furthers the oxidation, that is the rendering harmless, of the organic materials in the air. It is also undeniable that sunlight promotes

that psychic elasticity which so strikingly influences the physical elasticity and resisting power. (Page 1258.)

British Sessional Papers. Vol. XXVI. 1912. Report of the Departmental Committee on the Night Employment of Male Young Persons in Factories and Workshops.

After careful consideration of the evidence, and after viewing numerous works in various parts of the country and weighing all the facts thus obtained, we have come to the following conclusions, namely:

(a) To work at night, thus turning night into day, is unnatural.
(b) The alternation from day to night work, and *vice versa*, each successive week, even when the 3-shift system is in operation, does not allow time for the individual to adapt himself to the unnatural conditions.
(c) Night work involves the loss of all the beneficial effects that the sunlight has upon the body. (Page 9.)

4. INJURY TO THE EYESIGHT.

Night work often results in life long injury to the eyes. The danger of eyestrain from close application to work is intensified at night by insufficient and improper lighting of work rooms. While it is true that the more general use of electric lighting has improved the illumination of work-places and has lessened the vitiation of the air due to gas lighting yet it has introduced new elements of injury. The glare of excessive or unshaded lights may be as injurious to the eyes as insufficient illumination. Moreover, experience has shown that injuries to the eyes affect general health disastrously.

Report of New York State Department of Labor, 1909. Report of Medical Inspector of Factories.

My observations would seem to show that in gloomy workrooms where automatic machinery is used, requiring the constant care of an operative, and a single bright light is used to illuminate part of the machine, a certain mechanical hypnotic influence is exerted over the operative, which is a factor in the cause of minor accidents. . . . Too glaring a light is of as much danger as is too little light, and in some instances is a cause of complete loss of sight. In my opinion provision should be made requiring artificial illumination of a quality as near sunlight as possible, of sufficient power to thoroughly illuminate all parts of workroom, and placed above the heads of workers when in an upright position. (Pages 72-73.)

Ibid. 1911.

In my previous reports, the question of artificial lighting and its relation to air vitiation has been fully dis-

cussed. Its effect upon the eyes of the workers, if too dim, or too glaring, are to cause eye strain, nervous disorders, dimness of vision and the loss of eyesight, which latter is the greatest calamity that can befall anyone. It has been impossible to undertake an intensive investigation into the subject, but as a result of general injuries among the workers, I find there are a number who suffer from the effects of faulty lighting. I have observed many workers employed with unshaded gas and electric light directly on a level with the eyes, and from my own experience with such means of lighting, I am fully convinced of the harmfulness of such illumination.

When artificial illumination becomes necessary, there should be a fixed minimum standard of light to be maintained, as well as a proper means of protection from too brilliant illumination. (Page 73.)

Another danger to which these operators are exposed is that of having to work with artificial illumination on a level with the eyes, especially that from incandescent electric bulbs. Reports show this has a deleterious effect, not only upon the eyes, but upon the general health. (Page 93.)

Preliminary Report of the New York State Factory Investigating Commission, 1912. Vol. I.

Defective light and illumination are known to be injurious to the eyes of the worker. Insufficient light causes eye-strain and generally undermines the general health. (Page 74.)

According to the unanimous testimony of experts, defective light and illumination are most injurious to the eyes of the workers. Insufficient light causes eye-strain and the chain of symptoms following it, and thus gradually undermines the health. Much of the work in factories needs close application; the colors necessitating abundant light, and the work so minute that great strain is placed upon the eyes. Therefore, abundant light is the first necessity in a factory.

Injury to Eyesight.—United States.

. . . The installation of artificial illumination is usually made without regard to the location of the workroom, its size, the distance from the workers, the color of the materials, and the care of the eyes of the workers. It is, therefore, not at all strange that so many of the workers, especially the women, suffer from the effects of eye-strain and from other eye diseases due to defective light. (Pages 131-132.)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

Light and Illumination.

The lack of proper lighting in our industrial establishments has been recognized as a serious evil by sanitarians, efficiency engineers and factory inspectors. The lack of proper lighting in American factories has been commented upon by many travelers. Arthur Shadwell in his book on "Industrial Efficiency" (page 3) says: "In the United States I have seen so many mills and other works miserably lighted," and again: "A bad light is the most conspicuous and general defect of American factory premises." He claims that Germany and England are vastly more advanced in this respect than America.

The full importance of adequate and proper light in factories has been recognized in the legislative enactments abroad as well as in the United States, although here the legislation on this subject is very general.

It is universally admitted that inadequate lighting of industrial establishments affect not only the eyesight and general health of the employees, and the efficiency of their work, but is also responsible for the number and the frequency of accidents. (Page 427.)

Injury to Eyesight.—United States.

Report of the Massachusetts State Board of Labor and Industries. 1917.

Adequate Lighting.

The question of eye strain as a factor in industrial fatigue is receiving each year more and more attention. While the statute in Massachusetts does not specify any particular standard of lighting in the various lines of industry, nevertheless inspectors visiting the establishments throughout the State have made note of the degree of light, both artificial and natural, in various establishments and in different parts of the same establishment. (p. 61)

The essentials of good lighting may be summarized as follows:

(a) Adequacy.

(b) A reasonable degree of constancy and uniformity of illumination over the necessary area of work.

(c) The placing or shading of lamps so that light from them will not fall directly on the eyes of an operator when engaged on his work or when looking horizontally across the workroom.

(d) The placing of lights so as to avoid the casting of extraneous shadows on the work.

Natural lighting is to be preferred to artificial lighting, both on the grounds of health and economy. (p. 62)

Report of the Massachusetts State Board of Health, 1906. Report on the Sanitary Conditions of Factories, Workshops and other Establishments.

Poor light is itself a factor of no mean consequence in reducing the physiological resistance to disease.

It is a well established fact that either the overuse of the eyes, or the use of eyes under bad conditions, may give rise to eye fatigue or to eye strain; and many eye specialists believe that at least 80 to 90 per cent. of headaches are dependent upon eye strain. (Page 470.)

Injury to Eyesight—Great Britain.

Occupations from the Social, Hygienic and Medical Points of View. Sir Thomas Oliver, M.A., M.D.F.R.C.P., *Professor of the Principles and Practice of Medicine, University of Durham. Cambridge, University Press, 1916.*

As a cause of fatigue and of accidents mention must be made of imperfect illumination. Nothing surpasses sunlight and daylight. In factories in the United States the number of accidents is always greatest in the winter when artificial illumination has to be resorted to. Mr. Leon Gaster, editor of *The Illuminating Engineer*, has shown how poor illumination of factories tends to diminish both the quality of work and the output. It neither pays the employer nor the employed. By the latter a severe strain is experienced, for the eyes have to be used more than they otherwise would be. Bad illumination means more spoiled work, a larger number of accidents and greater fatigue to work people. So far as eye strain is concerned it is not so much that the light is always deficient as that it is improperly distributed. During work the eyes should not be exposed to unshaded lights placed in the direct range of vision. Such lights create "a glare" which dazzles rather than illuminates. . . .

Ocular fatigue arises from nerve conditions owing to the effort made by the individual to distinguish and fit in the details of his work—also by the image being too long retained on the retina and creating an after-image. One of nature's methods of preventing fatigue consequent upon impressions made upon the retina is pupillary contraction. Too bright light should therefore be avoided just as much as defective light. In badly illuminated factories accidents are sure to occur. (Page 31.)

Injury to Eyesight.—Great Britain.

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 15. The Effect of Industrial Conditions upon Eyesight. London, 1916. (Signed on Behalf of the Committee by Sir George Newman, M. D., *Chairman.*)

Eye-Strain.—Broadly speaking, this may be due to defects of vision or to the nature or conditions of the work. It may be accentuated by the age, fatigue or unsatisfactory physical health of the worker, by near distance work, insufficient or excessive illumination, abnormal position, or long hours. Operators employed on munition work should possess and maintain a certain standard of visual acuity if they are to perform satisfactorily the work expected of them. This standard, though it may vary for different processes, should never fall much below that of normal useful vision. For fine work the eyesight should be approximately normal. Notwithstanding the important bearing which good eyesight must have upon output, the question is not to-day receiving adequate attention at the hands of those whose duty it is to obtain this output. Instances have come under the notice of the Committee of headaches and eye strain resulting from (a) inadequate light, both artificial and natural; (b) artificial lights adequate in amount but so placed as to throw a glare on the eyes of the workers; and (c) employment of workers (whose eyesight should be aided by suitable glasses) to carry out fine work without first testing their eyesight. Eye strain, including headache, may be one manifestation of general fatigue. It is thus likely to become more marked when long hours are worked, when night shifts are necessary, or when workers are under-nourished, anaemic or of poor general physique. (p. 5)

Methods of prevention consist, first, of general measures designed to improve the physical health of the workers and so enable them to resist the effects of fatigue, and secondly of special measures intended to

avoid undue strain on the eyesight or to reduce the liability to accident to a minimum.

General measures, such as the suitable lighting of factories, the provision of canteens, adequate time for sleep and rest, have been dealt with in other memoranda and need no further reference here. (p. 6)

British Home Office. First Report of the Departmental Committee on Lighting in Factories and Workshops. Vol. 1. Report. London, 1915.

There is, however, the question of the hygienic importance of daylight as distinguished from artificial light. . . . We have failed to obtain any definite evidence of direct injury to health resulting from such conditions. . . . We have found substantial consensus of opinion among witnesses of all classes, that conditions involving the continuous use of artificial light are unnatural and entail greater strain on the workers. In this view we concur. (p. x)

Effects of Unsatisfactory Illumination.

1. Accidents.—The connection between lighting and incidence of accidents has been investigated statistically, by means of a special return of all reported accidents for 1913 and part of 1914, in which the number of accidents occurring each month from different causes are separately tabulated according to industry. The full results are given in Appendix IX., from which it appears that in respect of accidents due to "persons falling" (a cause which would seem to be specially dependent on lighting conditions), the percentage to total accidents is higher during the period of the year when artificial lighting is used than in the summer months. Further, by the use of certain assumptions, it has been possible to calculate the probable accident rate per hour separately for artificial and natural lighting. The results indicate that for most industries the former is far

higher than the latter, in some cases to the extent of about 40 per cent.

Strictly speaking, these statistics only allow of a comparison between daylight and artificial light and not between good and bad lighting of the same kind, but inasmuch as natural lighting may be considered superior to artificial, so far at any rate as regards liability to accident, it may be inferred that the same relationship would hold between any methods of good and bad lighting.

Further confirmation of the greater risk of accident during night was given in the evidence of several witnesses. Thus, it was pointed out that the number of accidents occurring in shipbuilding yards at night is quite out of proportion to the small number of men employed. (p. xii)

Ibid. Vol. 2. Minutes of Evidence.

Mr. Hadyn Harrison.

980. . . . There was one case which was brought before the American Institution of Electrical Engineers some time ago, in which a complaint occurred in a certain factory—a coil winding factory—that the workers were only able to wind sufficient coils at night time to earn 4s. 7d. whereas in the daytime they were able to wind sufficient coils to earn 8s. 4d. That is evidence that it was obviously a strain winding these coils by the artificial illumination. . . .

981. . . . The fact that they were unable to do the same amount of work by means of the artificial light which was being used, rather tends to the belief that it must have been injurious to the eyesight. Of course they naturally want to turn out as much as they can, and they will strain their eyesight if the illumination is not sufficient for them to work by, and it shows that they must have been trying to do something which probably would injure the eyesight—that was the opinion I gathered.

982. Have you any other cases of that kind? A. No, except the general evidence of the decreased output under artificial lighting conditions in certain factories. (p. 88)

British Sessional Papers. Vol. XVIII. 1889. Report of Chief Inspector of Factories and Workshops for the year 1888.

It must always be borne in mind that it is not only the length of the hours worked which is productive of so much harm, but the fact that especially in the winter time so large a proportion of these hours is passed in an atmosphere vitiated by gas and other impurities which have continued to accumulate during the day, and which atmosphere the workers inhale at a time when the body is fatigued by a full day's work. (Page 96.)

British Sessional Papers. Vol. XVII. 1893. Report of Chief Inspector of Factories and Workshops for the year 1892.

It should always be borne in mind that in the majority of cases where overtime is made, the work is especially trying and the rooms stuffy, ill-ventilated, and the air rendered very impure by the large quantity of gas required to be burning. Perhaps no class of work is more enfeebling than dress-making, and the making of other various articles of wearing apparel. (Page 90.)

. . . Our experience as factory inspectors goes more to the question of physical evil, and I have seen many a girl toiling away in a workroom, where the gas has been burning for 5 hours, upon whose face it did not want the eye of a doctor to discover the traces of the irremediable mischief which was going on. (Page 91.)

Injury to Eyesight.—France.

Le Travail de Nuit des Femmes. [*Nightwork of Women.*] GEORGES ALFASSA. *La Revue de Paris, Sept.-Oct., 1904.*

Night work for women is to be opposed on hygienic, social, moral grounds. Hygienically it is deplorable, because the worker who comes to the factory at 7 P.M. is not well rested, like the one who comes in the morning; she is thus subjected to relatively greater fatigue. She works by artificial light to the detriment of her eyesight. (Page 368.)

This is what Dr. Rochard* says of it:

"Subjected to night work they lose flesh, become anemic, and nervous disorders result from the impoverished blood supply; eyesight also is weakened or fails under the strain of artificial light. Those who have recently become mothers are unable to continue lactation. . . . It is imperative that all night work for women be prohibited, for it attacks the very sources of the strength of the nation in its working population.

"Sewing rooms are especially dangerous to health. They are small, crowded, and unventilated. The air is vitiated by gas and pulmonary exhalations. The eyes are also overstrained. . . .

"The Academy (of Medicine) declares that, from a strictly hygienic standpoint, a law permitting women to work at night in factories, shops and workplaces would have the most disastrous consequences to health." (Page 370.)

*Dr. Rochard expressed this view in the report made by him in the name of a Commission of the Academy of Medicine. To this Commission the study of the question had been delegated on request of the Parliamentary Commission, and its conclusions were unanimously adopted by the Academy.

Injury to Eyesight.—Germany.

Das Verbot der Nachtarbeit. [*The Prohibition of Night Work.*] *Report at the International Congress for Labor Legislation. Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft. Vol. XXV. 1901.*

Thus the workman comes to his night shift unrefreshed, and the work itself suffers in consequence. The man's fatigue at once affects his disposition; and often digestion, eyesight, and other physical functions are impaired also—functions that have already been directly injured by night work itself.

Dr. W. Kruse, in the article referred to above, shows how the visual organs and the mental condition are affected by lack of sunlight, and it is a matter of common observation that the digestion—which is in close interrelation with the mental condition—is disturbed by long and frequent night work. . . . The factory inspector of Potsdam (in 1897) reported that men working at night in the textile mills suffered sooner or later, and in varying degrees, from rheumatism, the swimming of objects before the eyes, and inflammation of the eyelids. Many also complained of restless and unrefreshing sleep. The injury to eyesight is easily accounted for by the fact that . . . the lighting of the workrooms is always inadequate, and is worse in some parts than in others. (Page 1260.)

Handbuch der Arbeiterwohlfahrt. Bd. I. Edited by Dr. Otto Dammer. *Beschädigung der Arbeiter bei der Arbeit.* [*Injuries of Occupation.*] Dr. Ascher, *Stuttgart, 1902.*

Puddlers, glassblowers, and others whose eyes are continually exposed to extreme heat and light not only suffer greatly from inflammation of the connective tissues of the eyes, but also frequently from cataract. . . . Shortsightedness was found in a great number of cases among the darners of a worsted mill the result of the

spasmodic accommodation of the eyes, as well as inflammation of the conjunctiva; that is the result of overstrained eyes in many occupations, especially those carried on in artificial or in poor light—the remedy lies in improving lighting facilities and in shortening the working hours. (Page 492.)

Die Schädingungen des Auges durch Licht und ihre Verhütung. [*Injuries to the Eyes from Light and How to Prevent Them.*] Dr. Braun-Libau. *St. Petersburger Medicinische Wochenschrift, XXXV. Jahrgang, August, 1910.*

Passing now to the subject of injuries done to the eye through light, and considering those injuries which have already been under clinical and experimental observation, we come first to the readiest of the consequences, though a very unpleasant one—of blinding; an injury to the front section of the eye, which goes by the name of *ophthalmia electrica*. The worst cases of this affection are found among people who work with electric arc lights—hence the name. The symptoms are as follows: several hours after the blinding, there sets in an irritation of the front part of the eye, together with a shrinking away from light, a flow of tears and, generally, severe pains, which in the course of the next six or eight hours become very terrible. The patient feels as if a thousand sharp pointed foreign bodies were darting hither and thither between eye and eyelid; the lids are shut spasmodically; and every approach of a light increases the torment unbearably. Usually only the lids and the conjunctiva are inflamed and swollen, but in severe cases the cornea too is troubled and the iris hyperaemic. The retina is generally unaffected. After a few days the symptoms pass away, usually without leaving any after-effects. (Pages 452-453.)

Injury to Eyesight.—Germany.

Augenschädigungen durch intensive Beleuchtung. [*Injuries to the eyes caused by intensive light.*] Dr. Koelsch. *Zeitschrift für Gewerbe-Hygiene. Bd. XVIII. Feb., 1911.*

Too intense light falling on the eyes gives rise to what is called blinding. . . . Some of the consequences of the blinding are experienced immediately—quick exhaustion of the visual substance, acceleration of nervous exhaustion, veiling of the retinal image, sensations of pressure and burning, tears, and reddening of the conjunctiva. Other disturbances follow only after longer exposure; if the blinding lasts sometime, if the source of light is particularly rich in short-wave rays, the phenomenon of "seeing red," snow blindness, or electrical ophthalmia may occur. Long exposure may cause disturbances of the color sense and alterations in the conjunctiva similar to those in spring catarrh. Or we may find changes in the lens, for instance, disturbance of the transparency, even to the point of the formation of cataract. (Page 61.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Le Travail des Femmes dans l'Industrie en Autriche.* Ilse von Arlt. *Jena, Fischer, 1903.*

Sewing by artificial light always injures sight; but if such work, in addition, takes place after the day's work which has already fatigued the eyes, the strongest eyes must be weakened. Moreover, the damage is all the greater because the irritating heat of the lamp is added to the workers' eyestrain. (Page 86.)

Injury to Eyesight.—Italy.

Controindicazioni al lavoro notturno. [*Counter indications of Nightwork.*] Dr. Luigi Carozzi. *Proceedings of the 1st International Congress on Industrial Diseases, Milan, 1906.*

During visits made to a few factories, I was able to observe that among nightworkers sight was the sense most affected, next in order, hearing, touch, smell, taste. Very prevalent are dazzling of vision, blinking eyes, buzzing and murmurs in the ears, and more prevalent still, headache and vertigo. (Page 73.)

La fisiopatologia del lavoro notturno e la legislazione Italiana. [*The Physiological Pathology of Night Work and Italian Legislation.*] Dr. Ambrogio Mori, *Assistant at the Pediatric Clinic, Royal Institute of Research, Florence. Il Ramazzini, Oct.-Nov., 1907.*

It may, however, be remarked that the nervous system is affected by means of the eye, as the eye in itself could not suffer from the rays of electric light or illuminating gas. Kruse, who maintains these views, is supported by the confirmation of not a few observations made by many authors in various industrial establishments; Carozzi of the Institute of Pathology under the direction of Devoto, asserts in fact, that of all the senses sight is the most readily injured by night work; hearing, touch, smell and taste to a lesser degree. Temperature must also be taken into consideration in the study of applied physiology in regard to night work. The thermometric variations, such as the increase of atmospheric pressure, a greater or less degree of humidity and other physical and atmospheric conditions connected with night work—a time destined by nature for rest—are the coefficients and causes of sensory disturbances, such as sparks before the eyes, dimness of sight, roaring in the ears, weight in the forehead, cephalalgia and vertigo, that often seize a workman in the midst of his activity. . . .

Injury to Eyesight.—Italy.

Some raise the objection that many workers—men and women—"accustom themselves without injury, to night work." But this shows—with great reserve for "the absence of bad effects," how adaptable the human organism is to its surroundings which may be in the greatest contradiction to the regular order of the vital mechanism. This adaptability cannot serve as a general rule. (Page 624.)*

* For a full bibliography on "Eye Injuries and Diseases, With Special Reference to Eyestrain", see Monthly Review, United States Bureau of Labor Statistics, August, 1917, Pages 186-191.

4. General Injuries to Health From Regular Night Work.

Night work, involving loss of sleep and sunlight, has been found disastrous to the health of women. Loss of appetite, sleeplessness, headache, anaemia and general predisposition to illness are the common physiological results of night work after a shorter or longer period.

More than twenty years ago in Germany the factory inspectors found a marked increase in illness among night workers, as compared with day workers in similar occupations, even though the hours of work at night were shorter than by day.

Under the pressure of war, the night work of women has been revived in Great Britain after almost a century of disuse.

The British Health of Munition Workers Committee has pointed out the urgent need of information as to the effects of night work upon health. But unfortunately its own investigations of night work have been confined almost wholly to studies of output. (See Effect Upon Output. Page 291.)

In practically all manufacturing industries, the physical environment and the nature of the work may constitute a hazard to health. Among these general industrial hazards the most important and the most prevalent are speed, monotony, continuous standing, bad air, humidity, extremes of heat and cold, noise, bad lighting, dust, fumes, poisons, etc. Not all these injurious factors are ordinarily found in conjunction in the same work-

place; but one or the other is operative in nearly every manufacturing industry. They are not confined to the so-called "dangerous trades," but are common to occupations usually considered non-hazardous.

All these dangers to health involved in industrial work are even more intensified in night work than in day work.

The Position of Women After the War. Report of the Standing Joint Committee of Industrial Women's Organizations Presented to the Joint Committee on Labor Problems After the War. Co-operative Printing Society, Ltd., London, (1917).

The long hours of work, and especially the night-work, with the additional strain of frequent Sunday shifts, have, however, had a very serious effect on the well-being and health of the workers. The young women have suffered greatly from this strain, and observation has shown not only the soundness of the previous prohibition of nightwork, but also the failure from the point of view both of the worker and of output, of the long shifts. . . .

Both for married women and the younger workers the present conditions suggest very serious problems. We fear that the women now working will feel their strength lessened in many instances for the remainder of their lives and we realize the perilous results when we remember the burden of motherhood which they may be bearing now or in the future. (Page 10.)

General Injuries to Health.—Great Britain.

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 4. Employment of Women. London, 1916. (*Signed on Behalf of the Committee by* Sir George Newman, M.D., *Chairman.*)

The imperative necessity of war has revived, after almost a century of disuse, the night employment of women in factories. Prohibited for the textile trades by the factory legislation of 1844, it disappeared gradually in Great Britain, and also in other countries, until, after inquiry and deliberation, it was banished by international agreement from the twelve European countries which signed the Convention drawn up at the International Conference held at Berne in 1906.* These countries included Great Britain, Austria, Belgium, France, Germany, Italy, Portugal, Switzerland and Spain. The agreement was based upon the results of inquiries into the effects, economical, physical, and moral, of night work for women. The reports showed deterioration in health caused by the difficulty of securing sufficient rest by day; disturbance of home life with its injurious effects upon the children; and diminished value of the work done—the common experience being that night work was inferior to day work. Now once more all these half-forgotten facts are in evidence in the Munition Factories. In a working-class home the difficulty in obtaining rest by day is great; quiet cannot be easily secured; and the mother of a family cannot sleep while the claims of children and home are pressing upon her; the younger unmarried women are tempted to take the daylight hours for amusement or shopping; moreover, sleep is often interrupted in order that the mid-day meal may be shared. The employment of women at night is, without question, undesirable, yet now it is for a time inevitable; and the Committee have, therefore, directed their efforts

* Bulletin of International Labour Office, English edition, Vol. I, 1906, p. 272. Certain minor modifications were inserted by some Powers.

to the consideration of those safeguards which would reduce its risks to a minimum. (Page 4.)

Ibid. Interim Report. Industrial Efficiency and Fatigue. London, 1917. The Comparative Efficiencies of Day Work and Night Work in Munition Factories.

1. Civilized nations have recognized that except in case of necessity or in times of great emergency night work is undesirable; but the sudden and urgent demand for output which the present war has brought with it has necessitated much night work for all classes of operatives.

2. Many general considerations would require examination if the whole question of night work in industries were under review, such as:—

(1) The remotely injurious effects of permanent night work, effects which are not manifested until after a long latent period. . . .

Although of extreme importance when night work is envisaged as a permanent feature of our civilization, these considerations do not assume the same place when we are dealing with an admittedly temporary state of things.

3. The Committee, however, is avowedly taking a short and not a long view of the subject, and is solely concerned with the factors which are of importance during the present emergency. . . .

4. Judgment on this restricted aspect of night work must be based upon a knowledge of both the comparative output-efficiency, and of the prevalence of invalidity, sickness and bad timekeeping among night and day workers.

5. In view of the grave objections which have been urged against night work on medical and physiological, as well as on purely economic, grounds, especially in the case of women, the Committee became anxious as to the

possibility of grave results to health ensuing with diminished output as a consequence. They therefore some time ago instructed investigators to study this closely. This study seemed the more urgent as no accurate data were available upon which conclusions could be based as to the least harmful system of employing persons by night, and the Committee in an earlier memorandum (No. 5, Section 17) found it necessary to leave the matter *sub judice.** (pp. 26, 27.)

Inquiry Into the Health of Women Engaged in Munition Factories. Special Points of Interest.

14. Some special points of interest which emerged from the findings at certain factories are worth recording:—

(a) Effect of factory life on married women was observed in two medical examinations carried out at Factory No. 4 within six months of each other. In the first case 210 workers were examined, and in the second 116 of the same women were seen again.

The married women re-examined at the factory included 31% who mentioned difficulties in home conditions or suffered from the strain of night work, as they often obtained too little sleep during the day. Chronic rheumatism occurred in 12%. Ten women had remained quite healthy; these included young women either without children or who undertook no household duties, and a proportion of elderly women of over 40 years of age, of the charwoman type, who were especially strong and wiry. Several mentioned the improvement which had resulted from their being given work at which they could sit instead of having to stand; and some had ceased night work.

Married women interviewed in their homes had left the factory for reasons of health in 26%, or on account of

* Notwithstanding this opinion as to the need of observing the prevalence of sickness among nightworkers, the Committee itself states that in studying their lost time, only "passing references are made to the reasons for such lost periods, *e. g.* sickness and avoidable causes." Interim Report, Page 34.

low wages and long hours in a similar proportion (26%). Some had secured work in other factories in the district where no Sunday labour was required. An additional 15% had left on account of pregnancy, and 15% had ceased going out to work either for health reasons or for home affairs.

The numbers under consideration are too small to afford definite conclusions, but in reviewing these cases the general impression was obtained that the long shifts and night work, in addition to home duties and worries (often associated with insufficient sleep), formed too heavy a burden for the average married woman.

(b) *Length of service in relation to strain.*—Factory No. 3; 134 workers reviewed. (p. 116.)

. . . . Sleeplessness was most marked between nine and twelve months, especially in those on night duty. After this the habit of sleep was again established except in the case of a few elderly workers of many years' standing, where possibly factory work was not the main cause of the condition.

The numbers are too small to form anything but a rough guide, but tend to show that for the first six months of factory life the work is usually fairly well borne and the effects of night duty show little ill-result. In the six-twelve months' interval the strain begins to produce effects on the weaker members of the factory, and an increased amount of headache, sleeplessness and dizziness is experienced, especially on night work. The data concern, of course, only those found at work, and are no criterion of what effect may be produced upon those—and their number is not inconsiderable—who for various reasons give up industrial employment after a short trial. (p. 117.)

Memorandum No. 2. Welfare Supervision. London, 1915.

Again, the provision of facilities for obtaining a hot meal at the factory are often inadequate, especially for

night workers. Frequently the arrangements made for heating carried food are also wholly insufficient. Again, workers who are poorly lodged may be unable to obtain appetising and nourishing food to take with them; others living long distances from the factory may have little or no time to spare for meals, and thus have to rely on what they carry with them to sustain them during the day. Yet the munition worker, like the soldier, requires good rations to enable him to do good work. (Page 3.)

Memorandum No. 3. Report on Industrial Canteens. London, 1915.

The difficulties in the way of adequate feeding arise mainly where the worker must have his meals away from home. In past years and even now in normal times the worker lived fairly close to his work, and was frequently able to return home for his meal. At present the difficulties of securing adequate food are increased owing to the prevalence of night labour and the large number of men and women who have to travel a considerable distance to their work. (Page 4.)

Labor, Finance and the War. Being the Results of Inquiries, Arranged by the Section of Economic Science and Statistics of the British Association for the Advancement of Science. Edited by A. W. Kirkaldy, *London, Pitman, 1916.*

Report of the Employment of Women in the Engineering and Shipbuilding Trades.

(c) Physical Strain, Fatigue, and Liability to Accidents.—No sufficient data are yet available on which to form a reliable opinion of the physical or mental effects of engineering work upon women. It is clear that no very serious consequences have yet emerged, and the period during which the women have been employed is too short

for less obvious effects to be measured. There is, however, a considerable body of evidence that the work in handling the heavier classes of shells and some kinds of labouring work tax very much the strength of the women. (Page 127.)

Fatigue was referred to by several doctors interviewed as a consequence within their experience of the employment of women in engineering works. One doctor who had acted as locum tenens in Clydebank, a large engineering centre, stated that during his stay there he had dealt with many women patients, employed in the metal trades, complaining of general weakness. Other doctors referred to the evil effects of night work. The women did not sleep well during the day owing to home conditions, and a considerable number of cases of fatigue resulted. On the bad effects of night work upon the women there was general agreement among those interviewed. (Pages 127 & 128.)

On the point of hours, one observation suggests itself. Notwithstanding the absence of any definite data, such as statistics of relative output of night and day work, the fact which emerges most clearly from the inquiry into conditions of labour is that night work is ill-suited to women. (Page 130.)

British Sessional Papers. Vol. XIX. 1834. Factories Inquiry Commission.

Answers to Medical Queries, as transmitted to Dr. Hawkins:—

(Dr. Bardsley) From my own experience I can assert that children especially (and likewise adults) are more exposed to disease than those employed in day work. When the typhus fever raged in Manchester in 1795-6 my infirmary reports demonstrated the greater liability to infection among night working children than day workers. I consider night working injurious from the following special causes:—1st, the ill-ventilated state of the factories where the night workers immediately suc-

ceed the day workers; 2nd, the transition from a heated temperature (especially in the cold months) to the external air when the human frame is debilitated from the want of a due proportion of refreshing sleep. . . . 3rd, night workers for the most part lie down on the same unmade and disordered bed from which the family had just risen, and through noise and distraction, and the propensity to play, or idleness, children rob themselves of a due proportion of sound sleep. (Pages 252-3.)

British Sessional Papers. Vol. XIII. 1843. Second Report of the Children's Employment Commission.

406. Almost all classes of witnesses in all the districts concur in stating that the effect of night work is most injurious, physically and morally, on the work people in general, and on the children in particular, and that no countervailing advantage is ultimately obtained from it even by the employers. (Page 72.)

The Lancet, March 4, 1905. Overwork. Editorial.

We know too little about the physiology of sleep to dogmatise concerning the reasons which render it a necessity, but we know from experience that, save in the cases of very exceptional persons, the hours devoted to it cannot be curtailed without serious injury—injury which often falls upon the work, and which never fails to fall upon the worker. (Page 579.)

General Injuries to Health.—United States.

Diseases of Occupation and Vocational Hygiene. Edited by GEORGE M. KOBER, *M.D., Professor of Hygiene, Georgetown University, and William C. Hanson, M.D., Massachusetts State Board of Health. Philadelphia,* P. BLAKISTON'S SON & Co., *1916. The Protection and Promotion of the Health of Woman Wage-Earners.* IRENE OSGOOD ANDREWS.

Night Work.—The leading nations of the world have recognized the physical and moral dangers of night work for women, and have enacted laws prohibiting such work for different periods. Scientific investigations everywhere have shown that the work of women at night is exceptionally injurious. Insufficient, broken and irregular sleep, lack of sunlight, irregular meal-times, disarrangement of the normal customs of life, injury to eyesight, increased chance of accidents—all of these factors combine to lower vitality, to weaken the power of disease resistance, to produce impoverished blood and anaemia, to weaken the female reproductive functions and generally to increase morbidity and mortality. In addition a legal limit set upon night work is a great aid in enforcing the laws limiting the hours of work per day. (Page 841.)

Preliminary Report of the New York Factory Investigating Commission, 1912. Vol. I.

To all the conditions injuriously affecting the health of the bakers and endangering their lives, one more, and a very important one, must be added, viz., night work.

. . .

The effects of night work upon the health of the workers is extremely bad. The following passage from "The Dawn," a daily paper of Lugano, Italy, December 1st, 1906, states the effects of night work very admirably:

"All night work is harmful to the body, even if it is voluntary; if it is compulsory, it is still more so; when it is habitual, it also becomes harmful morally, because it upsets the customs of life, which are founded on the

laws of nature, and in this way, banishes the workmen far from the social life. If it were absolutely necessary, the night work of the bakers would be a sad necessity; forced on them merely by a custom, it is an injustice for which we are all to blame. To wish that it be kept up, not for necessity's sake, but for our pleasure, shows the harsh egoism of a race not yet refined by the civilization of which it boasts". (Pages 224-225).

The physical examination of 800 bakers, made under the auspices of the New York State Factory Commission during October, is the only medical examination of bakers ever made in this State. (Page 225.)

Of the 800 bakers examined, 347 or 43 per cent, were found free from any disease, while 453, or 57 per cent, had some indication of defective physical condition. (Page 227.)

Bakers, are, according to all authorities, a short-lived race.

Arlidge says (25): "Those who have read the reports on hygienic state of bake-houses, and the circumstances of labor in them, will not be surprised that the mortality of bakers ranges high". . . .

The mortality rate is also affected by the general conditions under which the work of a baker is carried on, including excessive hours, unsanitary conditions of bake-shops, night work, etc. (Pages 231-232.)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

None of the investigations carried on by the Commission has shown conditions more dangerous to health and public welfare than the employment of women at night in the factories of the State. Conditions of life were revealed which seemed certain not only to destroy the health of the women employed at night, but to threaten the very existence of the young children dependent upon them for nourishment and care.

For instance, in one large industrial plant in the central part of the state, from 130 to 140 women were found at work on night shift. They were employed for ten hours on five nights of each week, from 7 P.M., to 5:30 A.M., with a break of half an hour at midnight. . . . The married women who worked at night had on an average about four and one-half hours of sleep in the day time; they prepared three meals each day, including breakfast which had to be made ready immediately after the night's work. They also did all the washing for their families. Many of them returned to their homes after ten hours of work at night in the dust and roar of the twine factory, to nurse their babies in the morning and during the day time. . . . The twine works were repeatedly visited by agents of the Commission, both at night and during the day and individual reports were secured, giving the personal histories of one hundred of the women who worked on night shift. The general appearance of the night workers is thus described:

"Most of the women on night shift are married," says the investigator. "The appearance of the women workers is very disheartening. They are stolid, worn looking, and pale. Their clothes, faces, and hands are covered with oil and hemp dust."

And again:

"The women as a whole were a disheartening group, in their oily, dust laden clothes, wth drawn, white faces and stooping gait."

The special investigators report that of the one hundred women, whose personal histories were secured, 95 were Polish. There were 80 women between twenty and thirty years of age. Of these one hundred women 62 were anemic, 57 complained of backache, and 53 of headache. In 77 cases menstrual periods were irregular; in 24 not regular (8 pregnant). All operatives worked standing.

These observations agree with the findings of all previous investigators who have studied the industrial night work of women. The publication of the results of these studies by the International Association for Labor

General Injuries to Health.—United States.

Legislation in 1903 was so convincing as to the injurious effect of night work, that three years later an international treaty prohibiting the employment of women at night was signed by fourteen European nations. . . . The authorities all agree that after a shorter or longer period women who are employed at night or until late evening hours suffer from all those symptoms which mark lowered vitality, if not actual disease, such as loss of appetite, headache, anemia, and weakness of the female functions. (Pages 193-194.)

Report of the Ohio Inspector of Workshops & Factories, 1891.

It is wrong for women to be compelled to work at unseasonable or for an unreasonable number of hours, and . . . this imposition is many times forced upon them, which they must and do endure without a murmur for fear of being dismissed. There is no necessity for such employment. Their labor is sought after for the very reason that it is cheap, and because it is cheap is the incentive for long and irregular hours. . . . Our State has endeavored to provide for the comfort of our women when employed. You should now take another step and regulate the hours of their employment, in so far at least that they should only be allowed to labor when the Godgiven influences of daylight surround them and forever stamp out from our midst what now prevails—the custom of night employment of women, which is a source of physical and mental degradation. I most respectfully recommend and appeal to your honorable body for the passage of a law for the preservation of the health of female employees that no women in this State shall be employed in any of the mercantile or manufacturing establishments after 9 o'clock P.M. and before 6 o'clock A.M. (Pages 19-20.)

General Injuries to Health.—United States.

Report of the Rhode Island Factory Inspection, 1910.

I also call your attention to the inconsistency of enacting in the interest of the physical welfare of women, a provision that prohibits their employment of more than 56 hours in a week and still permits them to work that 56 hours on a night schedule, an employment that is manifestly more injurious to health than a 64 hour schedule of day work would be. (Page 13.)

United States Congress. Senate Document No. 645. Report on Condition of Women and Child Wage-Earners in the United States. Vol. I. Cotton Textile Industry. 61st Congress, 2nd Session, 1910.

Shocking abuses in connection with night work were found in two small mills in North Carolina, where night employees frequently worked in the daytime in addition to their regular night work and where day employees frequently worked at night after a full day's work. These cases are not cited here as typical but they are given to show the extremes to which unregulated labor of women and children can go in the absence of legal regulation or of efficient means of enforcement.

In one of these mills the day shift worked 66 hours per week and the night shift 60 hours. Owing to a scarcity of help, day workers were frequently requested to return to the mill immediately after supper and work until midnight, and frequently some one was sent to the homes of employees early in the evening or at midnight to request day workers to come and work half of the night. Some employees usually declined to do overtime work. Others worked alternate nights as a regular custom.

Ordinarily this overtime work was paid for at the time it was performed and there was no record to show its extent. In the case of one family, however, the names of workers were entered on both the day roll and the

night roll and this record showed that 4 members of the same family had been paid for 78 to 84 hours of work per week. They had worked this number of hours, less a little time for supper and breakfast, on days when extra work was done. It was found that during a considerable part of the eight months that this family had been at this mill these children had worked two or three half nights each week, in addition to day work. After working from 6 a. m. to 6 p. m. with 35 minutes for dinner, they had returned to the mill, usually every other night, immediately after supper and worked until midnight, when they went home for four or five hours of sleep before beginning the next day's work; or they had been aroused at midnight and sent to the mill for the second half of the night where they remained until 6 o'clock the following afternoon except when eating breakfast and dinner. In either case they were on duty for a working day of 17 hours, with no rest period save for meals. Those who worked the second half of the night went home for a hurried breakfast just before 6 a. m. The mill stopped only 35 minutes out of the 24 hours, from 12 m. to 12.35 p. m. (Page 290.)

Ibid. Vol. III. Glass Industry.

Concerning the physical effects of night work upon women, irregular sleep, irregular eating, etc., the conclusions are very much the same as those arrived at in discussing the night work of boys. (Page 388.)

The practice of alternation renders even more difficult one of the most serious problems of night work—the problem of sleep. It means that one week the boy must obtain his sleep in daytime and the following week in the night time. Proper adjustment to varying sleeping periods is not an easy accomplishment for either adults or children. It was the almost unanimous opinion of night foremen and adult glass workers interviewed that this periodic change in the time of sleeping was, at the

least, physically undesirable. They agreed that, although it was not possible to trace an ailment to this specific source, they always "felt better" when working only by day. Of the same character was the testimony of mothers of boys working on the night shift. And that night work is regarded as "harder" by the boys themselves as a class is evidenced by the fact that most factories must offer a higher wage for night work than for day work in order to obtain a full complement of boys.

The second source of danger to the health of children incident to their working at night in the glass factory arises from the almost universal custom of arranging the hours of labor so that the night shift ends in the very early morning. This happens usually about 3 o'clock, the time when the weather is most severe and the time when the boy, through sleepiness and anxiety to get home, is less likely to consider the guarding of his health. Always he is overheated from his work, frequently in a state of perspiration. Only very rarely does he have extra or sufficient clothing to protect him in the change to the outside temperature. Often too, he has a long journey home. Very often the factory is well away from the town proper, seeking, as it does, cheaper land and better railroad facilities. In such cases the main approach is almost always along railroad tracks, but local trains or street car accommodation is seldom available so early in the day. (Pages 109-110.)

Report of the Industrial Welfare Commission of the State of Oregon, 1913-1914.

Pending special investigations and rulings on the different industries located outside of the city of Portland, and wishing to establish maximum hours and minimum wages which would put all of the industries in the small towns of the State on an equal footing, the Commission organized a conference familiarly known as the "Statewide" conference. (Page 9.)

The questions submitted to this conference were: . . .

(5) Is night work reasonable and consistent with the health and efficiency of female employes?

After due consideration, the conference sent the following recommendations to the Commission: . . . (Page 10.)

Answer to Question 5: The conference does not believe that night work is consistent with the health and efficiency of female employes. (Page 11.)

Report of the Minnesota Department of Labor and Industries, 1913-1914. Report on Women and Children.

During the spring of 1914 a special investigation was made of 234 restaurants where women were employed. The investigation covered a sufficient number of both large and small establishments to be representative of conditions in Minneapolis, St. Paul, Duluth and other important towns in the state. (Page 128.)

Because the restaurant business is a twenty-four hour industry there is opportunity for the too ambitious employee to work in two establishments. Our attention was first called to this through an appeal to help a sick waitress. She reluctantly admitted that she had been working through the noon rush from 11 a.m. to 2 p.m. in one place and then was employed for the night from 10 p.m. to 7 a.m. in another of the down town restaurants. Many similar cases have since come to our attention, and the only way such abuses can be reached is by appealing to the common sense of the workers which, happily, is not always ineffective. Several girls give a preference for night work because it pays better and business is not so driving. They even explain that sometimes they can rest from 2 a.m. to 4 a.m. Where do they rest? Dining room girls have demonstrated by putting chairs together where they stretch out for a little relief, while girls employed in the kitchens invariably make a couch of the table. We are not advocating more suitable rest rooms for these girls but we do want to see the women going

home at a reasonable time in the evening and men working on the all night watches. (Page 129.)

Amtliche Mittheilungen aus den Jahres-Berichten der mit Beaufsichtigung der Fabriken betrauten Beamten, 1881. [*Official Information from Reports of the German Factory Inspectors, 1881.*] *Berlin, 1882.*

Württemberg.

I found night work in one large factory, where adults supervised the work of younger operatives. The overseer said:

"These people are thrifty people; they sleep half a day, work half a day in the fields, and earn at night. However, they can only hold out at the latest to their 45th year." (Page 453.)

Ibid. Alsace Lorraine. 1889.

Cases of illness among the workers occurred as follows . . . in factories having part night work, 429; and in those having no night work, 328. (Page 93.)

Verhandlungen des Reichstags. 9 Sitzung, 19 Mai, 1890. [*Proceedings of the German Reichstag, 9th Session, May 19, 1890.*]

Herr Winterer:

Of most importance is it to combat the rapidly spreading regular night work which is involving so many women and children over 16 years old in its extent. We regard this regular night work as one of the most painful features of modern industry. Machinery should serve to lighten the labor of mankind but under the

tyranny of the machine, that is now happening which has never before been known in such proportions—thousands of women are compelled to sacrifice the beneficent night's sleep 150 times in a year. As long as such conditions exist we cannot speak of protection for the worker. It is the reproach of modern industry that it has made a wage worker of the mother. The woman who is a mother must always be, in the broad sense of the word, a worker, but her work should not take her from her family—it should not exploit her strength without regard to her health, with which the health of the next generation is bound up. (Page 164.)

Die Reform der deutschen Arbeiterschutzgesetzgebung [*The Reform of German Labor Legislation.*] Dr. Heinrich Herkner. *Archiv fur Soziale Gesetzgebung und Statistik, Band V. 1892.*

Interesting details as to the effects of night work upon the health of working women are given by the factory inspection reports from Alsace Lorraine. Although the hours of work by night were 22 per cent. shorter than by day, a mill with only day work showed in 1888 and 1889, respectively, 328-309 cases of illness with a loss of 5641-5815 days; while another mill of the same kind and the same capacity having part time night work showed for these same years respectively 429-413 cases of illness with a loss of 8730-8865 days. Many other districts (of factory inspection) gave similar figures. The comparison of two other mills in an identical branch of industry, one with only day work, and the other with night work for half the year, showed, for the former, 510 cases of illness and 5250 days lost, and for the latter 625 cases and 9130 days lost. Had the latter had continuous night work throughout the year its figures, now somewhat modified by the day workers' loss of time, would have been even more striking. (Page 240. Footnote.)

General Injuries to Health.—Germany.

Diseases of the Nervous System. H. OPPENHEIM, M.D., *University of Berlin. Authorized translation by* EDWARD E. MAYER, A.M., M.D. *Philadelphia and London, J. B. Lippincott Company, 1900.*

Neurasthenia, or nervous exhaustion, is a very common disease to-day, especially in the large cities. Even though it may have occurred at all times (and had been known for a long time as nervousness), it has without doubt increased in extent in the last years by the extra demands that have been made on man in his struggle for existence and in his social life. (Page 703.)

Those who work at night even though they have plenty of time during the day for sleep very often become neurasthenic. This refers to telegraph operators, night watchmen, compositors, etc. Working in overheated rooms is also a cause. (Page 704.)

Symptomatology.—The chief symptom of neurasthenia is the irritable weakness,—*i. e.*, the abnormal excitability accompanied by exhaustion, the latter being predominant. The patient is irritable and easily excited; but the excitement, whether pleasurable or otherwise, soon leads to exhaustion, producing and leaving a feeling of weakness and apathy. (Page 704.)

Fatigue, however, easily results, his ability for work is markedly abridged, and the least exertion exhausts him. The intensity and duration of this fatigue are characteristic. It may be so marked that all mental work is rendered impossible. Occasionally the ability to conduct visual memory pictures to the brain, to remember the appearance of a certain person, place, or object, is greatly impaired. (Page 705.)

Disorders of the special senses are also found and likewise bear the marks of increased sensitiveness and exhaustion. The eye and ear are particularly often affected. (Page 706.)

General Injuries to Health.--Germany.

Das Verbot der Nachtarbeit. [*The Prohibition of Nightwork.*] *Report at the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft, Vol. XXV. 1901.*

It is a fact generally recognized by science and experience that night work is, *per se*, injurious to the human organism. This harmfulness is shown in varying degrees according to the length, the frequence, and the nature of the work, and the age, sex, and constitution of the worker. And industrial night work especially,—that is to say, regular or frequent night work—is emphatically to be regarded as a factor dangerous to health. . . . Although some exceptions may be found of individuals whose health does not suffer from nightwork, its ill effects for the large majority cannot be denied. (Page 1259.)

The chance of accidents . . . must be considerably increased by the insufficiency of the lighting, and also by the fact that fatigue and inertia make the night worker deficient in carefulness and presence of mind. The accident statistics for 1907 give comparative tables of the number of trade accidents for the different days of the week and the different hours of the day, and in the explanatory comment these figures are regarded as confirmation of the fact—probable enough on the face of it—that the frequence of accidents increases with the increase in working time and the increase in fatigue. . . .

On the point of general injuries to health consequent upon night work—even in the case of grown men—there is abundant evidence of all sorts. . . . A member of the executive board of a certain miners' association expresses himself as follows: "The mere fact that the miner works at night and is deprived of his much needed night's rest, is enough to make this work injurious to mind and body. I know from my own experience that when I have had, say, a month's night shift, I am only half a man. It is for this reason that the miners are universally opposed to night work. According to sta-

tistics of the Bochum miners' union, the average working life of miners is less than twenty years". (Page 1261.)

Women have considerably less power of resistance (than men) to the hardships of industrial life, and especially to night work. Although they have in many directions astonishing powers of accomplishment and endurance, this does not prevent them from being unfitted to meet the demands of industrial work, since their bodies are weaker to start with, and the exercise of sex function makes them much weaker, hampers them, and subjects them to injuries to which men are immune. Striking proof of this—if proof is still needed—is furnished by reports on the expenditure of sickness insurance funds. According to the report of the factory inspector for Alsace-Lorraine, the number of illnesses per thousand among women working by day in worsted yarn mills was 328 in 1880 and 309 in 1889 (the number of days of illness being 5,641 for the first year, and 5,815 for the second); while the corresponding figures in the case of those who had partial night work were 429, 413; 8,730, 8,865. A cotton-mill which introduced night work in June, 1889 . . . furnishes evidence of the same kind: for every thousand women in the day shifts there were 510 illnesses and 5,280 days of illness; for every thousand in the day-and-night shifts, 625 illnesses and 9,130 days of illness. Night shifts continuing throughout the year would show figures more startling still.

We have said above that in the case of men, and especially fathers of families, one of the chief reasons why night work is injurious to health is that it interferes with sleep. For wives, mothers, and housekeepers in general, the matter is much worse in this respect, since all such women have of course much greater and more direct family duties to perform in the day time. When they come home after their night's toil, they must first of all look after husbands, children, and rooms and they must get breakfast, etc. . . . After a few hours rest (when they can get it), it is time to get dinner; after dinner is over, there are all sorts of things to be done for

the children, etc.; and in a few hours later very much the same things have to be done over again. . . . No amount of heroism can ward off the ruinous consequences of such a regime—consequences to the health of the woman herself, of the other members of the family, and of the children still to come. (Pages 1265-1266.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Interdiction du Travail de Nuit des Femmes en Allemagne.* DR. MAX HIRSCH. *Jena, Fischer, 1903.*

A distinguished physician and hygienist of Berlin, Prof.-Dr. Th. Sommerfeld, founding his judgment on physiological studies and on observations among his own clientele, concluded. . . . "The very great majority of female workers, especially the younger ones, suffer from anaemia and chlorosis and, a very large proportion suffer from chronic affections of the respiratory passages and the lungs, leading sooner or later to pulmonary tuberculosis. The causes may be found in working in enclosed places, very often also in breathing in the dust and—a point worthy of special note—in a bad posture during work. . . . These unfavorable conditions are naturally aggravated when, night work adding an increased interference with the natural order, the continuous effort becomes greater and rest becomes less."

The physician, whose opinion is here given, would for hygienic reasons absolutely forbid night work by women. (Pages 29-30.)

Die Arbeiterfrage. [*The Problem of Labor.*] DR. HEINRICH HERKNER. *Berlin, Guttentag, 1908.*

The contention that night work is better paid rests chiefly on an illusion. Since night work is more exhaust-

ing than day work, naturally it must yield a nominally higher wage than day work. Otherwise it would be more poorly rewarded than the latter. Whether this addition to the wage, however, suffices to offer an adequate equivalent for the greater sacrifice of vital energy in night work is extremely doubtful. But as, according to assurances of specialists in industrial hygiene, industrial night work is disproportionately more harmful to a woman's physique than to a man's, a woman should receive a still higher percentage of increase for night work than a man. (Page 286.)

Nachtarbeit und Ruhezeit im Bäckergewerbe. [*Night Work and the Rest Period in the Baking Trade.*] Hermann Mattutat. *Sozialistische Monatshefte, Berlin, 1. Band, 1911.*

The injurious effects of excessively long hours of work . . . have been so thoroughly established that we need not go into the matter here. In the baking trade these results are aggravated by the fact that the men have to work at night, and are hence cut off from a normal kind of life. Even the most resilient organism must soon succumb, and finally disintegrate, under the unhealthy and demoralizing influence of night work. (Page 201.)

Jahresberichte der Gewerbeaufsichtsbeamten in Königreich Württemberg für 1911. [*Annual Reports of the Factory Inspectors in the Kingdom of Württemberg for 1911.*]

Even in establishments where the interruption of work increases the cost, night work is being entirely dispensed with or limited as much as possible in the interest of the workers. (Page 11.)

Ibid., 1913.

In the inns and taverns, the night waitresses usually remain but a few weeks or not even so long, because they are so fatigued after a short time that they must be released. (Page 9.)

Die Frauennachtarbeit in Finland. [*Night Work of Women in Finland.*] *Soziale Praxis, XX. Jahrgang, 1911.*

An investigation made by order of the (Finnish) senate in the autumn of 1909 reports on the spread of night work in industry and on the economic and hygienic conditions that accompany this development. . . . A comparison of the women who work at night (irrespective of kind of occupation) with those who do not, shows that the health of the former is much worse than that of the latter (sewing women excepted). . . . The women night workers suffer most often from general nervous weakness (855, or 35.2%, out of 2659 women were thus affected); and it is especially between the ages of twenty and twenty-nine that their health is worse than that of other women workers. This seems natural enough when it is learned that 34.1% of the women night workers slept less than five hours a day, and only 41.4% slept much more than that. (Page 1346.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Le Travail de Nuit des Femmes dans l'Industrie en Autriche.* Ilse von Arlt. *Jena, Fischer, 1903.*

As night work and the special nature of woman's constitution lead equally to serious disorders, the necessity

of remaining on their feet all night, or even far into the night, is a very great danger for women, especially as in view of the meagre wages of female laborers, undernutrition is the rule. The opinions on the baleful effect of night work in factories are almost unanimous, and legislation for the most part prohibits it though allowing occasional exceptions. But it should be here stated that the dangers of night work are not by any means limited peculiarly to factory work; there is ground for condemning all night work of an industrial nature. (Page 100.)

Ibid. Le Travail de Nuit des Femmes dans l'Industrie Néerlandaise. G. J. Van Thienen, *Factory Inspector.*

The results of careful investigation show that night work is extremely detrimental to women workers, both physically and morally, and also that it can be readily done away with if decision is once made. The Commission of the Dutch Parliament (appointed to make the investigation) proposed to prohibit the night work of women of all ages. (Page 315.)

Ibid. Annexe. Enquête faite aupres d'ouvrières. M. E. Mahaim, *Belgium.*

All the working women I visited, with only one exception, declared as an obvious and incontestable thing, that night work was bad for the health. Even when one has become used to it from many years of practice "one is never one's self" in the week of the night shift. They feel tired, heavy-headed, or have headaches. Above all, appetite is lost and they cannot take enough food. This observation has been reiterated emphatically by all the women. . . .

Beyond this no definite malady is ascribed to night work. The women visited did not look positively un-

healthy, but were pale, evidently anemic. All but one were small and thin; this is characteristic of the working women of this region. (Page 177.)

The general impression which these visits have made upon me is that night work brings on serious troubles in nutrition. As these effects are felt only gradually, those most concerned scarcely perceive them, but they must result in a deterioration of the race.

Night work is moreover destructive of the life of the family. In this respect, it is to be regretted that one of the effects of the protective law (i. e., the Belgian law prohibiting night work by women under 21) is that very many married women work at night. (Pages 178-179.)

Le Travail de Nuit des Femmes dans l'Industrie au point de vue de l'Hygiene. [*Night Work of Women in Industry from the Standpoint of Hygiene.*] PROF. A. PROUST. *Revue d'Hygiene et de Police Sanitaire, T. XII. 1890.*

The dangers of night work for women are well known. Writers, hygienists, learned and deliberative bodies, and sometimes laws in a certain measure, have for a long time proclaimed them. Unfortunately, it is still necessary to emphasize them. . . .

But night work already constitutes a cause of deplorable fatigue for men; what shall it not be then for women? Anæmia, including in this term all those symptoms to which organic depletion gives rise, has here most disastrous consequences, so that, when bad climatic and hygienic conditions are added, the usual chronic troubles, constitutional affections and even acute maladies are liable to arise. And nevertheless the vitality and the prosperity of our populations depend on the vigor and the strength of woman, as also, of course, on that of man. (Page 482.)

Women who are required to devote themselves to night work, are attacked by sickness more frequently

than men, proportionally, and we have known for a long time that infant mortality is incomparably greater in those places where the mothers cannot themselves take care of their children.

The statistics on this matter are not as complete as might be desired, but all observations support the above conclusions. (Page 483.)

If, then, the chances of organic exhaustion are very much greater among women, as also the chances of physical decline and morbid predisposition, which may be and too often are the consequences of excess of industrial work, it follows of itself that the chances are increased still more when work takes up the hours of normal rest; they attain the highest degree of danger when the night work is only the prolongation of the day work with not any, or an insufficient, interruption. (Page 484.)

To sum up, the dangers inherent in the employment of women for night work in industry are exceptionally serious, depending on the physiological conditions peculiar to women and on the environment in which she is required to work.

Measures are necessary to avoid the physical overworking of women who are engaged in industrial occupations and to shorten their prolonged stay in the factories. Such measures should, insofar as possible, forbid night work for women. (Page 491.)

Note Sur le Travail de Nuit des Femmes dans l'Industrie. [*Night Work of Women in Industry.*] Dr. H. Napias. *Revue d'Hygiene et de Police Sanitaire, T. XII, 1890.*

To sum up, when one considers either the hygienic side or the moral side of the problem, it seems necessary to prohibit the night work of women. We have a law which protects childhood because we know how useful it is, with the small birth-rate of this country, to preserve these lives, precious and altogether too few as they are;

and with singular inconsistency the legislature makes a law which authorizes girls and women to work in shops at night, which prepares girls for maternity by rendering them anæmic and favors their falling into prostitution, and which at the same time keeps mothers separated from their infants, left at lodgings without care and without milk, exposed to the dangers which menace early life, and for the avoidance of which we expend in France each year more than a million and a half! That is neither just, nor logical, nor humane.

"In 1885, in a report unanimously approved by the *Comité consultatif d'Hygiene publique de France*, we stated that the prohibition of night work should apply not only to young women but to women of all ages. This is the view which the *Société de Medecine publique* is asked today to express. (Pages 255-256.)

Rapports présentés à M. le Ministre du Commerce, de l'Industrie, des Postes et des Télégraphes, par les Inspecteurs du Travail. [*Reports of the French Factory Inspectors.*] *La Question de l'Interdiction du Travail de Nuit.* [*The Question of the Prohibition of Nightwork.*] *Paris, 1900.*

For women, nightwork means deserted home and neglected children; physically, it means anæmia and predisposition to all manner of female ills.

It is the denial of mental culture for all workers, of whatever age or sex. (Page 11.)

Here is testimony from the North on this subject:

"We demand (in the North) the prohibition of nightwork for our women, girls and children. It is expensive, gives poor products, and does not bring a return equivalent to the expenditure of energy by the workers and the machines". (Page 47.)

From the social point of view the absolute prohibition of night work is desirable. Besides enabling the work-

The resolution which closed the communication of Dr. Napias was unanimously adopted by the *Société*." (Page 274.)

ingman to live a normal life, working by day and sleeping at night, it would also preserve his health. It is well known that nothing is more fatiguing than night work, often carried on under bad lighting conditions and with the necessity of a continuous struggle against sleep. . . . It should be our aim to attain this standard, which satisfies both hygiene and morality. (Page 66.)

L'Interdiction du Travail de Nuit des Femmes dans l'Industrie Française. [*The Prohibition of Nightwork for Women in French Industry.*] A. CHAZAL. *Paris, Pedone, 1902.*

In fact, night work, which in itself is injurious to the human body, has most disastrous consequences for the health of persons of the feminine sex. Although woman, under certain conditions, is distinguished by a prodigious strength and resistance, she is much less adapted to the demands of industrial labor, because her physique is less vigorous and because her sexual functions often enfeeble her and render her susceptible to dangers from which men are exempt; and the Academy of Medicine, consulted in 1890 on the results of work at night, and speaking through a commission composed in part of MM. Bronardel, Proust and Farnier, expressed itself as follows in the organ of Dr. Rochard:

"To be deprived of sleep is one of the most painful things one can endure; it becomes still more cruel when there is added to it a monotonous and fatiguing labor in the repetition of the same movements. It is especially fatal to the health of women. Under this régime they grow thin, become anæmic, and soon all the nervous disorders which follow the impoverishment of the blood succeed one another, while at the same time the sight becomes weaker and is injured by this work carried on during long hours by gaslight.

". . . While of course remaining in the field of hygiene, the Academy declares that a law which author-

izes women to work at night in manufactories, works and mills, would have for their health most disastrous consequences. . . ." (Pages 8-10.)

Le Travail de Nuit dans les Boulangeries. [*Nightwork in Bakeries.*] *Report of* M. JUSTIN GODART, *Deputy. Discussion. Paris, Alcan, 1910.*

Dr. Letulle. I merely wish to lay before you the results of a long experience as hygienist and physician in favor of the suppression of nightwork in bakeries.

Nightwork is an "anti-physiological act": Muscular effort after nightfall is incomparably greater than in the daytime. Work done in the evening causes four or five times as much fatigue as the same amount of work done by day. If, therefore, it should be possible to suppress nightwork, an immense service would be rendered to the bakers. . . . In going over in my mind my hospital practice, I remember having seen many bakery workers coming up for treatment. They were mostly young men; I did not see many old ones among them. (Page 28.)

Royaume de Belgique. Bureau de Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

In the Canton of Glaris, at Ziegelbrucke, the night work of women was temporarily re-established in a cotton mill—with the consent of the inspector—for a very unusual reason. One of the two wings of this establishment having been destroyed by fire, the men and women previously employed ran the risk of being deprived of employment, while the mill owner was exposed to an equal injury through the probable loss of his laboring force. Hence, the temporary, though illegal authorization of night work.

It is of especial interest to study this case. The director of this mill told me a very characteristic thing—that he would be highly gratified to see matters return quickly to their normal course, and night work come to an end. For this reason, he pushed forward the rapid reconstruction of the burned structure.

Here are some irresistible arguments he mentioned. Night work, in force in this mill, for one year, had produced visible injuries to the health of the female workers. The fourteen nights per month which they passed at the mill exerted a disastrous influence on their physical vigor. This was very natural; they slept very little; they reserved for sleep only the forenoon; at midday they arose to prepare the midday meal, and did not lie down again in the afternoon.

And was it true that at such a cost the output was abundant and excellent? My informant told me on several occasions that quite the contrary was the case. (Pages 86-87.)

And he goes on to say even more than this: "We have a similar establishment in Italy, a country where night work is permitted to the weaker sex without any restrictions. From first appearances there was much to be gained. (Page 88.) . . . In spite of these obvious advantages, we preferred to give up night work and install steam power at great expense.

Many other Swiss engineers have had similar experiences in Italy. M. Schuler, a Swiss factory inspector, tells me that they all believe in the superiority of the Swiss system of stopping work entirely between eight in the evening and six in the morning. Coming as it does from practical men, this testimony is clearly of the greatest importance. (Pages 87-88.)

General Injuries to Health.—Switzerland.

An das Schweiz. Industriedepartement, die eidgenössischen Fabrikinspectoren. [*Report of the Swiss Factory Inspectors to the Swiss Department of Labor.*] *1904.*

. . . As to the harmfulness of nightwork, that survival of doubtful value of the last century, experts and laymen agree, and labor hygiene has long since recorded that it has an injurious effect upon the well-being of the worker. If a shortening of working time is advisable anywhere, it is so in the case of night work. Persons who are wearied from long working hours fall a victim more easily to all injurious influences. (Pages 33-34.)

Zur Frage der Nachtarbeit in den Bäckereien. Mitgeteilt von der Sozialen Kauferliga, Schweiz. [*The Question of Nightwork in Bakeries. Swiss Consumers' League.*] H. Sieveking, *Professor of Social Economics, University of Zurich. Zeitschrift fur schweizerische Statistik, 17. Jahrgang, 1911.*

Of the physicians who were questioned in regard to the disadvantages of nightwork, a small number declared that there were no disadvantages. It should be noted that in Zürich the doctors whose practice was in the country were the only ones that held this opinion. We know that in point of fact the custom of nightwork is infrequent except in the cities. . . . There is no question of making vigorous fellows soft and lazy; on the contrary, what we want is to secure a normal working capacity for a class of men who now labor under unfavorable conditions. . . . Drs. Gisler and Rutimeyer, of Basel, stated that the bakers often suffer from diseases of the stomach, of nervous or other origin, as a result of their abnormal manner of life. "They always have to sleep during the period of digestion." "Day sleep is never as deep and quiet as night sleep, and it is therefore less restorative."

Dr. Bing (Basel) and Dr. Lüscher (Bern) speak of the nervousness of bakers caused by night work. No other workmen change their trade so often for the sake of their health. (Pages 281-282.)

The physicians that condemn night work on hygienic grounds insist chiefly on the fact that sleep in the daytime is less restorative on account of the noise. They regard this as tending to the exhaustion of the nervous system. (Dr. Zollikofer, of Saint-Gall; Dr. Walker, of Solothurn:) "The evils inherent in the baker's trade are aggravated by night work." "The lessened resistance of the organism increases the susceptibility to diseases of the respiratory tract and to tuberculosis." "Anemia is one of the consequences." "This kind of life promotes alcoholism." Dr. Mende (Zurich) has found more cases of anemia among bakers than among any other class of workmen. Dr. Borsotti, of Chicasso, has noticed that bakers feel keenly the contrast between their own lives and those of men who sleep at night. In certain situations, he says, their sense of honor is less likely to be aroused, and they yield more easily to evil suggestions. (Page 283.)

Frenastenia e delinquenza in rapporto a taluni ordinamenti del lavoro. [*Imbecility and Criminality in Relation to Certain Forms of Labor.*] Prof. Crisafulli. *Proceedings of the First International Convention on Industrial Diseases, Milan, 1906.*

Most pitiful are the consequences of night work. Through it, the workman is constantly deprived of the civil and social life of the day—his very being, his various energies are limited and curtailed. He deteriorates both physically and mentally because after a while body and temperament change, intelligence decreases, the affections and sentiments atrophy, and grave phenomena develop in general metabolism.

With the exception of such public services as admit of no suspension during night hours (railroads, telegraphs, etc.), night work of all kinds could be advantageously abolished, especially because sleep by day is never so restorative as sleep by night.

To children and to women night work is a source of incalculable injury which often lasts through life; for this reason a law has been recently enacted which prohibits their employment by night. (Pages 148-9.)

Controindicazioni al lavoro notturno. [*Counterindications of Night Work.*] Dr. Luigi Carozzi. *Proceedings of the First International Congress on Industrial Diseases, Milan, 1906.*

The researches of Italian physiologists demonstrated that work performed by tired muscles requires more effort than harder work performed under normal conditions; that muscular fatigue impairs the faculty of attention, and therefore affects memory.

The poisonous products formed during labor accumulate in the blood and cause that particular auto-poisoning known as "fatigue," which tires the organism even before the reserve tissue material is consumed. It is, as we see, a perfect cycle, influenced also by many not less important factors:—

1. The *continuous vibration* of the body, transmitted to it either directly by the pedal of the machine, or indirectly by the vibration of the entire workroom. Strain upon the hearing faculty acts unfavorably upon the curve of fatigue. (Fere.)

2. The *repetition* of the same identical movement leads more rapidly to tiredness. This shows itself in the small hours of the morning; work is badly done; errors on the part of workers are frequent. . . .

3. *Close attention* is necessary not only for efficient work, but also to avoid accidents. (Pages 79-80.)

General Injuries to Health.—Italy.

The physiological problem of work and of rest is thus difficult and complex. . . .

Change of temperature, the action of too intense light, of heat, increased atmospheric pressure, bad air, dust, etc., the overexertion of certain muscles or organs, the night hours so heavy in contrast with those of the day—all these things more easily impair the health of the worker who is employed by night. . . .

I will here mention the case of three night workers (two men and one woman) which I studied in a cotton mill: for years they had worked continuously at night, that is without alternating it with day work. One was the foreman: robust, healthy, intelligent, he was able to furnish me with useful information, the more so because for 7 years he had been a day worker. He assured me that during that period his appetite was better, his work brisker. After 5 years of nightwork, after noticing a loss of weight of 10 kilos, which took place rapidly (and then remained at a standstill) he is now always tired, feels broken down, suffers from exhaustion difficult to overcome, and constipation. (Pages 80-81.)

Ministero di agricoltura, industria e commercio. Ufficio del lavoro. [*Department of Agriculture, Industry and Commerce. Bureau of Labor.*] *Inchiesta sul lavoro notturno dei fornai.* [*An investigation of Night Work in Bakeries.*] *Rome, 1906.*

The lessening of the power of resistance in the organism is the greatest injury effected by fatigue, and is, as we have seen, the cause to which, directly or indirectly, all of the diseases and disturbances physical and mental, which we have already spoken of as common among bakers, are to be ascribed. Fatigue is manifested in all cases where the equilibrium between assimilation and dissimilation in the tissues is lost and dissimilation gets the upper hand. This results from two processes which are developed contemporaneously in the muscular and

in the nervous protoplasm—that is, the destruction of the albuminous substances and the production of poisons, or in other words, the accumulation of the products of consumption in the tissues. The intoxication of the tissues explains why the phenomena of fatigue are manifested even when there has been sufficient nourishment to produce a quantity of energy proportionate to the labor performed.

The painful sensation of continual weakness which is characteristic of the state of fatigue and with which the tired workmen are afflicted, does not depend simply upon the diminution or loss of excitability and of muscular energy; it depends also upon the depression of the nervous system, which is the stimulus, or physiological instigator, of every active muscular movement.

When the nervous system is fatigued, that is to say when it has succumbed to the toxin of overwork, phenomena of various kinds take place—first diminished precision and energy of movements, then functional lesions (represented by neuralgia or spasms), and finally real neurasthenia, characterized by incapacity for continuous and accurate work and later by changes of mood, melancholy and irritability. . . .

Fatigue, therefore, and the harmful effects of fatigue, are not always manifested in the same way; they are hastened and aggravated by the special constitution of the individual and by the special circumstances under which he is placed. The constitution of the individual is of special importance in the case of children and women, for they are known to be very easy preys to fatigue, and the effect upon the physical and intellectual development of the children and upon the health and morals of the women and the vigor of their offspring, is apt to be permanently disastrous. The law of June 19, 1902, is directed towards the avoidance of these evils in the bakery trade; night work is forbidden for children under fifteen and for women not of age. Although this law applies only to places in which machine power is used or in which more than five workmen are employed at one time,

still there are not many bake-shops that are exempt from its requirements. Thus the weakest members of the laboring class are protected from the chief evil of work in bakeries (work at night). (Pages 19-21.)

The chief thing that endangers the health of the worker in bakeries is the custom of night work. This is the only condition common to all the bakeries, and it is this that prevents the workman from recruiting his forces by adequate and restorative rest, from undoing the harm done him by fatigue, from obtaining the benefits of sunshine and fresh air, from lightening his spirits by the enjoyments of social intercourse. . . .

For these reasons the immediate measure that is most logical, most useful, most certain to produce good results, is the prohibition of night work; for night work is not an absolute necessity of the trade, and it is the first and foremost cause of the unhealthy character of work in bakeries. This provision would bring about, naturally and inevitably, a reduction in the hours of labor, as well as an improvement in the situation of the bakeries and in the hygienic conditions under which the bread is made. (Page 21.)

This brief review shows how deplorable the situation of the baker is. It is the opinion of those who are engaged in making a scientific study of such questions that if night work is abolished there will be a gradual but radical change in conditions, which will have its effect on the workmen, the employers, and the quality of the bread—with all profit to the cause of hygiene and the general welfare. (Page 23.)

(From a leaflet signed and circulated by GIUSEPPE MARELLI, a Milanese baker): The abolition of night work has now become necessary, and the demand for the reform may be looked upon to-day as a duty, since many benefits would accrue from it—above all, physical and moral benefit to our workmen and hygienic benefit to us all. We may as well frankly admit that this custom of night work is an inversion of regular life. As the well-known saying goes, "the night was made for rest".

General Injuries to Health.—Italy.

We know how even men of leisure soon feel the consequences when they try to change night into day and turn life up-side-down. But here we have to do not with a leisurely, but with an active mode of life, and we have to consider also that work performed at night cannot be perfect in quality, since the workman cannot see to do his work well—the result being that the man who works at night does not gain in intelligence. (Page 105.)

La fisiopatologia del lavoro notturno e la legislazione Italiana. [*The Physiological Pathology of Night Work and Italian Legislation.*] Dr. Ambrogio Mori, *Assistant at the Pediatric Clinic, Royal Institute of Research, Florence. Il Ramazzini, Oct.-Nov., 1907.*

The digestive system undergoes functional changes owing to irregularity of meals and night work; appetite fails, breathing becomes labored, the tongue coated, there is frequently weight in the stomach, with sour eructitions and constipation. Finally dyspepsia sets in and may lead to serious gastro-enteritis. Lesions occur—if only functional—of the organs that should supply fresh fuel to the activity of the operative; the body loses weight, and the worker's face indicates a condition of incipient anaemia, of general debility.

The respiratory and circulatory systems of night workers do not present specific functional alterations except a frequent sensation of shortness of breath and of palpitation of the heart, to which many can bear witness. The procreative power of men is diminished or impaired and the effect on the female generative organs is also injurious. . . . (Page 624.)

5. General Injuries to Health from Late Overtime Work.

Work at night is disastrous to health not only where women are employed on regular all night shifts, but when they are employed on overtime until towards midnight or later. Overtime work at night is the commonest form of night work. It is especially dangerous to health because it involves night work after and in addition to day work. The period of rest and sleep is cut down at the very time when the heaviest demands are made upon the organism. Even short periods of such excessive overstrain may permanently injure the health of working women.

British Ministry of Munitions. Health of Munition Workers Committee. Interim Report. Industrial Efficiency and Fatigue. London, 1917. The Causes and Conditions of Lost Time. T. Loveday, M.A.

(d) The Relations Between Lost Time and Overtime.

11. If the term "overtime" be taken in the ordinary sense of hours worked beyond the normal time of a factory, any attempt to correlate lost time and overtime is apt to be misleading, since the normal hours of different factories vary. Nor is the attempt much more hopeful if some such figure as 53 hours be arbitrarily selected as a normal working week and any excess reckoned as overtime; for length of hours is only one of many conditions of lost time, and it would be difficult to find two factories varying in that condition alone. Yet overtime admittedly does cause loss of normal time. . . .

(*b*) In so far as long hours lead to loss of time by

fatigue and sickness, insistence upon them is most deplorable. The keenest men are not always the most robust, and it is the keenest who have most strain to bear. The hours gained are more costly than the hours lost, and, coming as a rule at the end of a long day, their cost is altogether disproportionate to their output; and the resulting fatigue which drives some men to bed produces lassitude and decreased efficiency in many of those who continue to attend regularly, so that the output of normal hours also declines. The effects of Sunday labour are, as has now been recognized, still worse than those of overtime hours in the evening or on Saturday afternoon.

12. How considerable a proportion of the time gained by extraordinary hours may be lost in normal hours even in a well-managed factory in which the good will of the employes is undisputed, is illustrated by the following figures which refer to the engineering departments of a firm engaged on heavy work. The normal dayshift week is 53 hours, and the nightshift work 60 hours.

TABLE I.

Period	Percentage of Employes working overtime.	Average hours worked overtime by those so working.	Percentage ratio of hours worked overtime to practically possible normal hours of all employes.	Percentage of Employes working on Sunday.	Percentage ratio of Sunday hours to total overtime.	Percentage ratio of hours lost by bad timekeeping and sickness to hours gained by work overtime.
May, 1906 (4 weeks)...	78.4	13.0	19.7	62.0	61.0	53.0
June, 1916 (2 weeks)...	72.0	12.7	16.9	60.0	57.0	59.6

The high percentage of loss is mainly attributable to a very high sickness rate, itself the result of long hours on heavy work since the beginning of the war. Further figures illustrating this point will be quoted below.

Obviously, however, a mere comparison of hours gained by overtime and normal hours lost is worthless if unaccompanied by other figures; since if little overtime be worked, it may be more than counterbalanced

by a very moderate loss of normal time, not in any way due to the overtime work.

13. The very long hours worked in many factories during the past two years have, perhaps, been necessary, but, so far as my experience goes, the necessity has been imposed upon, and is deplored by, employers and managers, who have noted the decreasing briskness and resilience of the workers. The strain has told, not only upon operatives, but still more upon officials and upon foremen, who have broken down in considerable numbers. Unhappily, the men too often welcome long hours because of the extra pay. In one factory, where overtime had been kept as low as possible, men told me quite frankly that there was a good deal of grumbling in consequence. But the sickness-rate in that factory was correspondingly low, and there can be no doubt that for the average man high wages earned by long hours are too dearly earned. (p. 44.)

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 4. Employment of Women. London, 1916. [*Signed on Behalf of the Committee by* Sir George Newman, M.D., *Chairman.*]

While the urgent necessity for women's work remains, and while the mother's time, and the time of the elder girls, is largely given to the making of munitions, the home and the younger children must inevitably suffer. Where home conditions are bad, as they frequently are, where a long working day is aggravated by long hours of travelling, and where, in addition, housing accommodation is inadequate, family life is defaced beyond recognition. If the home is to be preserved from such processes of destruction, greatly improved conditions of transit and housing must be secured, as well as the best possible hours of work by night and day. It is far from uncommon now to find some two or three hours spent on

the journey each way, generally under the fatiguing conditions of an overcrowded train or tram, often with long waits, and a severe struggle before even standing room can be obtained. The superintendent of a factory situated in a congested district stated that the women constantly arrive with their clothes torn in the struggle for a tram, the satchel in which they bring their tea being sometimes torn away. The workers were of an exceptionally refined type, to whom such rough handling would be altogether unfamiliar, but they bore these conditions with cheerful resolution. Tribute is constantly paid by foremen and managers to a similar spirit; they tell of workers readily working overtime in the knowledge that their action means the loss of the last tram and a four or five mile walk at midnight. Often far from offering a rest from the fatigue of the day, the home conditions offer but fresh aggravation. A day begun at 4 or even 3:30 a.m., for work at 6 a.m., followed by 14 hours in the factory, and another two or two and a half hours on the journey back, may end at 10 or 10:30 p.m., in a home or lodging where the prevailing degree of over crowding precludes all possibility of comfortable rest. Beds are never empty and rooms are never aired, for in a badly-crowded district, the beds, like the occupants, are organized in day and night shifts. In such conditions of confusion, pressure and overcrowding, home can have no existence.

There is great need for improvement in means of transit, and this alone would help to relieve the unsatisfactory conditions of housing; but however great the increased facilities of service, the journey between home and factory must still add, in many cases, a couple of hours to the working day. When considering hours in relation to efficiency and fatigue this influence upon the total length of day should be remembered; the factory day cannot always stand by itself as the only contribution towards fatigue. To quote a single instance:—A recent inquiry made for the Committee into the conditions of employment of 75 women employed from 6 a.m. to 8 p.m., showed that though most of the workers lived within a mile or a mile and a half of the factory, none of them got

more than about 7½ hours' sleep and many of them less than 7 hours. The majority rose before 5 a.m. Of the 75 workers only 19 were over 21 years of age, and many were between 16 and 18. Such facts illustrate the domestic side of the problem which the Committee have had to consider. They serve to demonstrate both the need for improved facilities in housing and in transit and the need for limitation of the periods of employment.

Hours of Labour.—Happily there should be in the matter of hours of labour for women little conflict between the interests of the home and the interests of munitions, for the hours which conduce most to a satisfactory home life and to health conduce most to output. (Pages 4-5.)

British Home Office. Second Interim Report of an Investigation of Industrial Fatigue by Physiological Methods, A. F. STANLEY KENT, M.A., D.Sc. (Oxon.) *Henry Overton Wills Professor of Physiology in the University of Bristol. London, 1916.*

Fatigue as dealt with in these pages and as indicated by the tests described is taken to mean a diminished efficiency of the organism occurring after labour and partly dependent upon it. . . .

The practical bearing of this is on the question of overtime. It has been thought that the simplest method of increasing output in times of stress is to increase the number of hours in the working day. But extra hours must necessarily be added at the end of a day's work, and the result will vary according to the previous condition of the worker. Should the work of the ordinary day have been so light that no fatigue is evident at the end of it, the workers will be comparatively fresh when they start upon the period of overtime and will suffer little. If, however, the previous work has been severe, they will already be fagged and jaded, and the extra labour will produce a greater effect.

Injuries from Late Overtime.—Great Britain.

Results obtained recently show further that overtime has an effect which is not confined strictly to the day on which it is worked. The worker is in a less favourable condition to resist fatigue after an ordinary day's work, followed by a night's rest, than before, and the effect of an overtime day is correspondingly greater. Two or more overtime days produce a proportionately greater lowering of efficiency, and the effect is more pronounced if the overtime days are consecutive than if they are separated by days of normal length. Finally, an overtime day introduced towards the end of the week is more harmful than one worked nearer its beginning. (Page 7.)

General Description of Charts.

In order to make the curves more easily understood the differences have been calculated as follows:

In the Reaction Time test the differences are—

M—E

(Morning value minus evening value.)

If the evening value has been increased by fatigue the difference will be negative, and the curve will fall below the zero line.

In the tests of Acuity of Sight and Hearing the differences are—

E—M

If the evening value has been diminished by fatigue the difference will be negative, and the curve will fall below the zero line. . . .

The curves show a fall of the line, indicating the development of fatigue, on days on which work was performed. The Tables give the actual readings from which the curves were made.*

In Chart No. 3, the results are shown of a series of tests of the acuity of sight. The period covered in the six days from October 25th to October 30th, inclusive.

* The course of the curve is determined neither by the development of fatigue nor by recovery alone, but by the interaction of these two processes.

The conditions were similar to those which obtained in the former experiment, values above the base line representing greater acuity in the evening, and vice versa. The differences are, however, given in centimetres, and indicate differences in the distance at which standard letters could be identified. (Page 11.)

TABLE (Figures for No. 3)
Fatigue — M - E

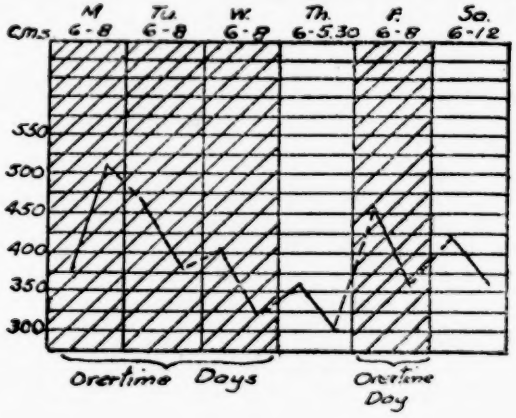
(Sight)	—	M	T	W	Th	F	S	
	E	520	380	326	313	362	369	
	M	373	470	411	368	476	433	
	E.-M	147	-90	-85	-55	-114	-64	(Differences)

Chart No. 4.

ACUITY OF SIGHT.

A fall of the curve indicates the development of fatigue.

The curve is constructed with the same set of figures as No. 3. Instead of the differences being used, however, the actual morning and evening values have been plotted.



Injuries from Late Overtime.—Great Britain.

Allowing for the familiar effect on Monday, which results in a better condition on Monday evening than in the morning, and is followed by the curious deterioration during Monday night, the remaining days of the week show. on Tuesday and Wednesday the effect of two overtime days, on Thursday the lesser effect of an ordinary day, on Friday the exaggerated effect of an overtime day towards the end of the week, and on Saturday the usual lessened effect due to a half-day. This effect of half a day at the end of the week is, however, greater than the effect of a whole day in the middle of the week, on Thursday. The curve also affords an example of the advantage to be gained by avoiding a series of consecutive overtime days. (Page 12.)

Chart No. 6 represents values obtained from a worker in the spinning shed. The test used was the Reaction Time (letters) as in No. 5. . . .

TABLE
Fatigue = E - M

Reaction Time (Letters)	—	M.	T.	W.	Th.	F.	S.	
	M	III	1.17	1.38	1.74	1.44	1.70	
	E.		1.63	2 20	1.88	1.78	1.35	
	M-E	-	-.46	-.82	-.14	-.34	.35	(Differences)

The curve in this case is complicated by the illness of the worker. Two processes were at work, one the gradual recovery from illness, the other the gradual development of fatigue. The result of the former process may be recognized in the indications of less fatigue on Thursday than on Tuesday produced by a normal day's work, and similarly by the fatigue of Friday being less than that of Wednesday, both overtime days. Usually the opposite result is obtained, and similar amounts of work produce more fatigue at the end of the week than at the beginning. The recovery on Saturday—a half-day—should be noted.

By arranging the figures somewhat differently the effect of the extra strain of overtime on this subject, rendered unusually sensitive by illness, is brought out even more clearly. In Chart No. 6A the actual figures obtained are plotted instead of the differences between morning and evening values. An ordinary day's work on Tuesday produces much fatigue. The effect is exaggerated on Wednesday, when overtime was worked. On Friday, recovery from the illness seems to be fairly complete, and although near the end of the week, an overtime day produces less effect than on Wednesday, just as the ordinary day's work on Thursday produces less effect than a similar task on Tuesday.

There is evidence of a similar dual effect in those portions of the curve indicating recovery from fatigue, the usual weekly course of which is modified by the passing away of the state of illness.

We have then several sets of results from different individuals obtained by different methods. The results are strikingly similar in their indications. On overtime days fatigue is indicated in the curves by changes of considerable magnitude, whereas, when normal hours have been worked, such indications are slight. The methods depend upon the acuity of the sense of sight, the acuity of the sense of hearing, the height of the blood-pressure, and the recognition of different letters.

The curves given represent the results of a small proportion of the many hundreds of tests carried out recently. Those selected will serve to indicate the general character of the whole.

Injuries from Late Overtime.—Great Britain.

CHART No. 6A.

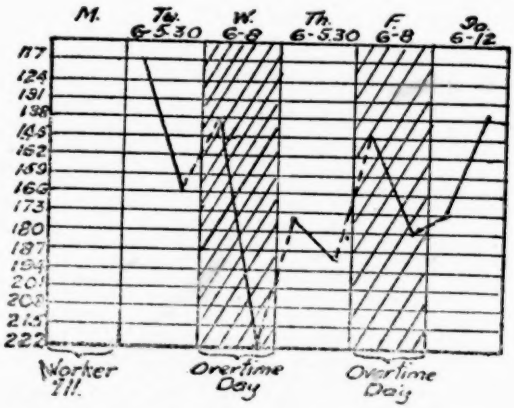
COMPLEX REACTION (LETTERS).

Factory E, Spinner No. 15.

(Week ending November 6th, 1915.)

Actual values plotted.

A fall of the curve indicates the development of fatigue.



It is evident that overtime produces in the worker differences of physiological state which affect different functions of the body and which may be recognized by several tests. It is necessary to examine more closely this physiological difference, and the conditions under which it appears. (Pages 14-15.)

When once an individual has, through labour during ordinary hours, reached a certain degree of fatigue, and proceeds to further labour (overtime) without taking the repose necessary to dissipate the fatigue already produced, this further labour has a greater physiological effect and exhausts the organism more than would a similar amount of labour performed when fatigue was absent. This is a well-known fact in physiology; it is

also a matter of ordinary experience. It is of importance in the present connection because it indicates that OVERTIME LABOUR IS MORE HARMFUL TO THE WORKER THAN LABOUR PERFORMED DURING ORDINARY HOURS. It is therefore PHYSIOLOGICALLY EXTRAVAGANT.*

CHART No. 8.

CURVE OF RECOVERY.

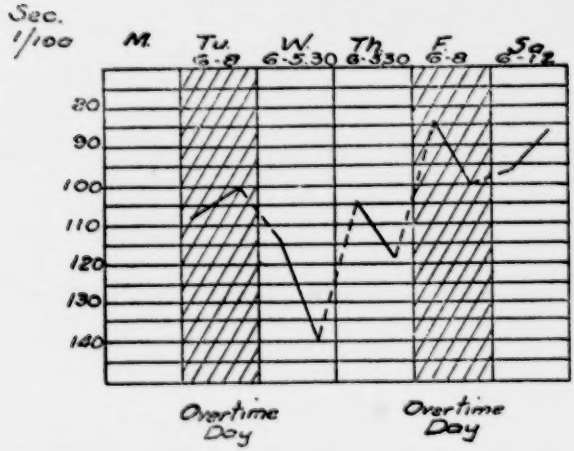
COMPLEX REACTION TIME (COLOURS).

Actual values plotted.

Factory E, Winder No. 12.

(Week ending 30th January, 1916.)

A rise of the curve indicates recovery.



* The payment of higher wages renders overtime economically extravagant also. Yet higher wages are not sufficient to make it universally desired by the workers. Enquiries were made of 18 operatives in various departments of a large factory as to whether the overtime day with its extra rate of pay, or the ordinary day, ending at 5:30 P. M. would be preferred. In reply 15 voted against overtime, the remaining three stating that they were indifferent in the matter.

(Page 16.)

Injuries from Late Overtime.—Great Britain.

Chart No. 8 illustrates a case in which no work was done on Monday. On Tuesday night a fall resembling the ordinary Monday effect occurred. On Wednesday and Thursday nights good recovery took place after days of ordinary length, whilst on Friday night, after overtime, recovery was much diminished.

The recovery already dealt with occurs during the interval between the cessation of labour in the evening and its resumption in the morning. (Page 19.)

Labour, Finance and the War. Edited by A. W. KIRKALDY, M.A. *Published by authority of the Council of the British Association. London, Pitman. 1916. Chapter III. Replacement of Men by Women in Industry During the War.*

Report on the Employment of Women in the Engineering and Shipbuilding Trades.

Timekeeping.—Both employers and women superintendents were generally agreed that women are, on the whole, excellent timekeepers. Not only are they punctual in their attendance at starting-time, but they are seldom off work for any lengthy period. Night-shift work accounts for more broken time than day-shift work, especially among married women. The reason given for this is that women do not so readily adapt themselves to night work as men. Sleeping during the day is not, as a rule, restful, particularly where it has to be done in an unquiet and undarkened room, and these disadvantageous conditions certainly are found in the homes of many of the women workers. In addition to these influences which affect men equally with women, there is the tendency on the part of women to take the opportunity when on night shift to use the hours when they should be asleep for the performance of domestic duties. This tendency is naturally strongest in the case of married women who have children to look after; and some employers, recognising the fact, have done their best to exclude married women from their works. (Page 113.)

Fatigue was referred to by several doctors interviewed as a consequence within their experience of the employment of women in engineering works. One doctor who had acted as *locum tenens* in Clydebank, a large engineering centre, stated that during his stay there he had dealt with many women patients, employed in the metal trades, complaining of general weakness. . . . Other doctors referred to the evil effects of night work. The women did not sleep well during the day owing to home conditions, and a considerable number of cases of fatigue resulted. On the bad effects of night work upon the women there was general agreement among those interviewed. (Pages 127-128.)

In the point of hours, one observation suggests itself. Notwithstanding the absence of any definite data, such as statistics of relative output of night and day work, the fact which emerges most clearly from the inquiry into conditions of labour is that night work is ill-suited to women. Given the necessary workers, it seems desirable to introduce generally, at the earliest possible moment, the three-shift system, instead of the present two-shift. Some reduction in earnings would almost certainly follow, and with it probably a protest from the women themselves; but of the beneficial results from such a change there does not appear to be room for serious question. (Page 130.)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

The preceding examples illustrate the dangers of a regular night shift. But far more usual than the all-night shift is the employment "overtime" until late at night. In many trades employees are required to work many hours after and in addition to the regular day's work, a practice which subjects women already fatigued to the added strain of night employment. A detailed study of bookbinding in New York City carried on during

the last few years has just been published. The hours of labor were reported of women working in 208 binderies employing 5,689 women.

"Few binderies (not more than two or three)," says the report, "have regular night shifts for women who begin work in the evening without having worked during the day. In a far greater number, girls who work during the day stay on through the night hours. . . . Some of the actual instances of overtime work demonstrate that prescribing of a definite rest period during definite hours of the night is essential to prevent the joining together of two working days at the stroke of midnight."

Thus, for instance, one girl of 23 worked from 8:30 A.M. until 5:30 the next morning.

"She was employed to fill the boxes of a gathering machine in a magazine bindery. She worked from 8:30 A.M. until 5:30 P.M., with a half hour at noon. She began again at 6:30 P.M. and worked until midnight. After a recess of thirty minutes she continued her day's task until 5:30 A.M. At the time of this employment the New York law permitted a twelve-hour day, and since the employment of women at night was not prohibited, a working day of twenty-four hours was legal, for with the stroke of the clock at midnight a twelve-hour day ended and another twelve-hour day might begin. In the case of this girl, not the long hours of work, but the fact that fourteen hours instead of twelve preceded midnight was a violation of the law."

Under the present fifty-four hour law, which allows a working day of only ten hours, the lack of a legal closing hour would presumably allow the employment of a woman ten hours before and ten hours after midnight. This is a stretch of twenty working hours, practically continuous, but falling on two calendar days.

In 152 cases, instances of illegal overtime were found among the bindery workers in 42 binderies. In eighteen per cent of these cases—almost one in every five—work continued until 10 P.M., or much later at night, in addition to the day's work.

Several flagrant cases were included in this last group. One reported work until 12:30 A.M., three until 1:00 A.M., two until 3:00 A.M., one until 5:30 A.M., one until 8:00 A.M., and one until 9:00 A.M. In every one of these cases the girl had gone to work in the morning, had worked through the day and evening until after midnight. (Pages 198-200.)

The Commission found instances of extreme overtime work by women in the canneries. Here the employment of many women from the morning of one day until after midnight, or even until dawn of the next day is proved by the employer's written records.

The time sheets of one factory for July 11th, 12th and 13th were put in evidence at a hearing held by the Commission at Auburn, N. Y., on August 14th, 1912. This establishment packs fruits and vegetables and on the busiest pack employs from 150 to 200 people. About 75 are women. One of these women was a Mrs. D———. The overtime hours, incredibly long, which she worked were clearly proved.

The counsel for the Commission examined the manager of the factory:

"Q. According to your time sheet which you have produced of July 10th, 1912, which is Wednesday, Mrs. D——— began work at 6:45 in the morning that day; is that right? A. Yes.

Q. And she finished at 2:30 in the following morning? A. Yes.

Q. Working 19¾ hours? A. Of course, she had ½ hour out for lunch and supper that we gave her.

Q. You produce the time sheet for the date of July 11, 1912, and I find the same Mrs. D———, that is the same one, is it? A. Yes; 16 hours.

Q. And she began that morning at a quarter of seven and stopped at 12 o'clock, and she began at 1 o'clock—that was her lunch hour? A. Yes; she had an hour out.

Q. You didn't pay for that hour? A. No.

Q. Then she stopped at 6 and started at 7; you didn't pay for that hour? A. No.

Q. She stopped at a quarter of one in the morning? A. Yes, sir.

Q. And she worked 16 hours that day? A. Yes.

Q. Have you got July 13, Mrs. D———? She began that morning, according to your sheet, at a quarter to seven, stopped at 12, began at one in the afternoon and stopped work at 6 and began at 7 and worked until a quarter of two the following day; 17 hours during the day, actual work, taking out at her own expense one hour for lunch and one hour for supper? A. Yes."

Other women were employed in the same factory for hours equally long. This fact was shown by the employer's own time sheets. From these it was found that on July 11th, from among 55 women workers, one half (27) worked until after 11 P.M., most of them continuously from 6 to 7 A.M., with an hour out for dinner and supper at their own expense. Of the 27 women who worked until late at night

15 worked until after 11 P.M.
2 worked until midnight or 12:30 A.M.
4 worked until between 1 and 2 A.M.
6 worked until 2 A.M. or later.

The women who did not finish until 1 or 2 A.M., were employed from 16 to 17 hours out of the 24.

The time sheets show on the next day, July 12th, the night work dropped off somewhat, yet 12 women out of the 55 worked later than 10 P.M.

On the third day, July 13th, 32 or almost two-thirds of the women worked late at night again. 23 of them worked until between 1 and 2 A.M., 5 of them worked until between 2 and 3 A.M. On this day again these women were employed from 16 to 17 hours.

Instances may be further cited showing also the duration of night work done overtime in the laundries of New York City. In February, 1912, an inquiry was made by the Bureau of Mediation and Arbitration of the New York State Department of Labor into the causes of a strike of laundry employees. At a number of hearings,

these employees testified under oath in regard to their hours of labor. Testimony was given showing that work often continued until midnight and occasionally until 1 A.M. The three schedules following, of long weeks reported in the stenographic minutes of evidence, while not necessarily typical, nevertheless illustrate to what extremes the night work of women in laundries may be carried where there is no legal closing hour.

Day of week	Woman who has worked 2 yrs. in laundries	Woman who has worked 5 yrs. in laundries	Woman who has worked 11 yrs. in laundries
	A. M. P. M.	A. M. P. M.	A. M. P. M.
Monday	12-12	12-12	7-9
Tuesday	9-11.30	9-11.30	9-11
Wednesday ...	9-9.30	9-9	9-8
Thursday	9-7	9-7	9-7.30
Friday	9-6.30	9-6	9-6
Saturday			

In many other occupations also employment overtime often occurs until late at night. This is especially the case, although to a less degree than in the binderies and laundries, during the fall months in factories that supply the Christmas market, notably in candy and paper box manufactories. Overtime is usual too, through the wide ramifications of the clothing and stitching trades, and also in dressmaking and millinery establishments. (Pages 198-200.)

Report of Ohio Inspector of Workshops and Factories, 1890.

. . . If there can be raised any objection to the employment of women in factories, etc., it certainly should be their employment for unreasonable hours, and especi-

ally after night. The employment of women in factories implies that the great majority are compelled to remain standing more or less of the time while engaged at their daily avocation. It is a well established fact that for a woman to remain standing for any length of time, and especially for such practice to extend from day to day, will eventually result to her physical detriment. So apparent has this fact been established that Ohio has already placed a law on her statute books compelling that all employers of women furnish comfortable seats for their use, but it is absolutely impossible for most factory employees to receive much relief from this law, being, through necessity caused from the nature of their work, compelled to remain standing a greater portion of the time; and when they have been so employed for a period of ten hours, is it not barbarous that they should be compelled to work still longer hours, and sometimes far into the night? This department has received many pathetic appeals for relief from women employed in factories, who, through fear of being discharged from their positions, have been compelled to work long and irregular hours. (Pages 37-38.)

United States Congress. Senate Document No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. V. Wage-Earning Women in Stores and Factories. 61st Congress, 2nd Session, 1910.

New York.

The average normal hours of labor per week for the 224 girls employed in New York's manufacturing and miscellaneous establishments (representing men and women's clothing, printing and binding, candy factories, paper-box factories, laundries, artificial flower and feather factories, millinery, etc.—about 170 establishments in all) interviewed on this subject, amounted to but 55½, yet 207 had worked overtime during the season

of 1907-8 an average of 2.4 hours for 2.4 days during each week for an average period of 17.3 weeks. This would indicate that for about 17 weeks at least the average number of hours per week was a little over 61.2 for the 207, which is exceeding the legal limits by a little over an hour and a quarter a week.

As stated above, the New York State law permitted more than 10 hours labor a day, but not more than 12 hours. The purpose of this law is to get 60 hours of labor 1 week, and yet allow 1 short day—a Saturday half-holiday, for example—in each week. Two hundred and four of the 207 reporting overtime work were working more than 10 hours on certain days of the week. The "long days" for the 204 averaged 11.9 hours, but the significant feature of the returns was that 42 of the 204 reported working days of more than 12 hours; 11 of these had worked at their longest days 14 hours, and one girl worked 24¼ hours at one stretch with but 2 half-hour intermissions for meals. The worst offenders against the 12 hour day limit were in the printing and binding trades. Four girls in 1 establishment on the "night force" 1 day of each week reported their "longest day's labor" as 16¾, 20¼, 22½ and 24 hours. These "long days" occurred once, and sometimes twice a week for a period of 16 to 26 weeks, except in the case of the girl who worked 24¼ hours her usual "long day" was 20¼ hours, but she had worked 24¼ twice in 21 weeks. . . . There were 13 women, all in the printing and binding trades, working on night shifts. Out of 10 establishments, however, 5 were working some of the women employees more than 12 hours. (Pages 204-205.)

Injuries from Late Overtime.—United States.

Women in the Bookbinding Trade. Mary Van Kleeck. *Russell Sage Foundation Publication. New York, 1913.*

The girls' reports covered 88 different binderies of which 36 were edition and pamphlet binderies employing 50 or more women. Seventy per cent, 159, of the reports showed overtime, including legal and illegal, while more than half of these instances of overtime were violations of the law. (Page 141.)

Some of their 159 reports of overtime showed comparatively early closing hours, which were not violations of law. In 21 per cent of the 159 cases the girls were not kept later than 7 o'clock, and in 16 per cent they left the bindery between 8 and 9. In 44 per cent they stayed until 9 and in 19 per cent, almost one in every five, they worked until later at night. Several flagrant cases were included in this last group; one reported work until 12:30 A.M., three until 1 in the morning, two until 3 o'clock, one until 5:30, one until 8 and one until 9 the next morning. In every one of these cases the girl had gone to work in the morning and worked throughout the day and evening until after midnight. (Page 142.)

The total hours daily in all reports of overtime showed as wide a range as did the statements about closing hours. In 9 per cent of 139 cases in which the daily working hours were fully reported, the maximum day when working overtime did not exceed ten hours, in 14 per cent it was between ten and eleven hours and in 29 per cent it was between eleven and twelve hours in length, exclusive of meal time. Twelve-hour days appeared in 23 per cent of the reports, while in 25 per cent the overtime day was longer than twelve hours.

The detailed reports of working days longer than twelve hours show appalling conditions. These hours represent actual working time, after deducting the length of noon recess and the time allowed for supper. In four positions the day was 12¼ hours long; in seven, 12½ hours, in three, 12¾; in nine, 13; in one, 13½, in two, 14;

in two, 15½; in two, 16; in two, 18; in one, 19½; in one, 21½; and in one, 22 hours. The United States government investigators, whose report has been quoted, found an even more alarming example of overwork of a girl in a bindery,—a working "day" of 24¼ hours. (Pages 143-144.)

The weekly hours were within the legal limit, sixty hours or less, in 46 cases, and exceeded it in 51.

The details of the group working 70 to 80 hours showed 70 hours in three cases, 71 in two, 72 in one, 72½ in one, 75½ in one, 78 in two, and 80 in one. (Pages 145-146.)

A witness of the processes of work in bookbinderies would require no medical proof of two chief dangers to which bindery women are exposed, the danger from the accumulation of dust on paper, and the danger of fatigue. The workers' own statements are important as testimony on these points.

"She was all worn out and she got so thin there wasn't anything to her," said the mother of a girl who for three years had worked all night two or three times a week in the winter months. "She began in the morning and worked until 5:30 A.M., the following day. Then she was supposed to rest all day and until the next morning at 8 when she went to work again," said her mother. "But she got so tired she would cry all morning when she came home and she couldn't sleep well. The doctor told her she'd have to stop night work."

In a certain bindery in New York a grocers' catalogue is bound every Wednesday evening. In order not to miss tardy advertisements it is not brought to the bindery until 7 P.M. Two women work until 10 or 11 P.M., to prepare it for the mail Thursday morning. After that hour, one of them, twenty-three years old, must journey an hour from Brooklyn Bridge before reaching home uptown in Manhattan. Just before the Fourth of July, 1911, in a record-breaking hot spell this girl was overcome by the heat at night in the bindery. She was dizzy and nauseated, and "could hardly hold her head up,"

but the grocers' catalogue must be wire-stitched and she could not stop work until the order was finished. She was ill for two weeks afterwards, receiving no wages for the time lost, but the catalogue was mailed in time, and thus the firm did not lose the contract for binding it. (Pages 150-151.)

Documents Parliamentaires. Sénat, 22 Juin, 1891, Annexe 138. [*Documents of the French Senate.*] ***Rapport fait sur le Travail des Enfants, des Filles Mineures, et des Femmes dans les Établissements Industriels.*** [*Report on the Labor of Children, Young Girls and Women in Industrial Establishments.*] SENATOR TOLAIN.

As to the evening overtime its special characteristic is, as the inspector of the department of the Seine pointed out, that it is imposed upon women who have already been working all day. It differs, therefore, from regular night work, in that it is carried on by workers who have already performed a day's full task, and not by a fresh set who have been able to arrange systematically for their regular night hours by taking at least some rest by day and by making arrangements for their expected night of work. It is, therefore, upon women already fatigued that this extra burden is laid by the prolongation of the day's labor and this overtime may be in all, sixteen and seventeen hours' continuous labor—sometimes even more. (Page 205.)

Rapports présentés à M. le Ministre de Commerce, de l' Industrie, des Postes et des Télégraphes par les Inspecteurs du Travail. [*Reports of the French Factory Inspectors.*] *La Question de l'Interdiction du Travail de Nuit. Paris, 1900.*

Late hours of work, as well as actual night work, are destructive to the health of girls and women. We have

had occasion more than once to observe the injurious effect of evening overtime. When night hours are added to those of the day's labor the result is overwork which directly saps the strength and promotes the craving for alcoholic stimulant. During an inquiry made in Marseilles a number of sewing girls complained that after a certain number of evenings with late overtime they found it impossible to sleep. Though overcome by fatigue, they lay awake until early morning, when it was nearly time to go to work again. In consequence, they did not have the seven hours of sleep imperatively necessary for an adult. Failing to have restful nights after the day's work, insomnia supervenes with all its terrors. Sleep has so vast importance with regard to health that there is perhaps no function deserving of more serious consideration. Everything that interferes with the hygiene of sleep is dangerous, because the equilibrium of the nervous system is imperiled. The overworked women who have been employed overtime in the evenings absolutely need the period of unemployment to re-establish their shattered health as best they may. (Pages 71-72.)

Le Travail de Nuit des Femmes. [*Nightwork for Women.*] Georges Alfassa. *La Revue de Paris, Sept.-Oct., 1904.*

But night work is especially injurious when, in place of substituting it for day work it is added thereto; in other words, when, in addition to the day, there is evening work, as was the case in Paris before the law of 1892. . . . They were kept until midnight, 2 a. m., sometimes all night. Such overtime working hours are extremely exhausting, for the workers have had no food since midday except some hasty mouthfuls in the early evening. (Pages 368 and 369.)

Of what value can the sleep be that comes between 2 and 7 a. m. after an exhausting day and evening? Thus, aggravated by conditions more or less unhygienic, night

work for women has always resulted in deprivation of sleep. (Page 369.)

La Veillée: Abus et Responsabilités. [*Overtime: Abuses and Responsibilities.*] Mme. A. Paul Juillerat, *French Factory Inspector. Proceedings of the First International Conference of the Consumers' Leagues, Geneva, 1908.*

Those who have not seen clothing establishments in full activity can hardly imagine the dreadful fatigue and sapping of strength resulting from these days of frenzied speed. (Page 52.)

The sewing girls, hurried on all sides, fingers trembling, are literally exhausted when their work is done. . . . At seven, instead of going away to get supper, they are told "We will work overtime." They have lunched at noon, and since then have not left their chairs; perhaps a bite was snatched at four; . . . without being able to send word home, they must resume work for the evening. . . . Eleven o'clock comes. . . . midnight. . . . At one o'clock the poor sewing girl, thoroughly worn out, is not hungry, has but one wish—to sleep a little before beginning again the next day. Sometimes, at night, the last car has run, and the young woman has to go home on foot. (Page 54.)

Amtliche Mittheilungen aus den Jahres Berichten der Gewerbe Aufsichtsbeamten. XXI. 1896. [*Official Information from Reports of the German Factory Inspectors.*] *Berlin, 1897.*

The complaints of laundrywomen in Beuel of bad conditions and overwork gave the inspector in Bonn opportunity to investigate the laundries. He found deplorable conditions. . . . The hours of work were varied and often permitted grave abuses of the strength

of employees. In some establishments . . . the hours of work were prolonged from midnight until 6 or even 8 of the following evening, or from 12 to 20 hours broken only by short and irregular pauses. Even if this only occurred two or three times a week it could not fail to injure the strongest constitution. Unfortunately it is impossible at present to interfere, as this industry does not come under the factory laws. Cologne. (Page 264.)

Das Verbot der Nachtarbeit. [*The Prohibition of Night Work.*] *Report at the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch der Gesetzgebung, Verwaltung, und Volkwirtschaft, XXV. 1901.*

The dangers to health involved in night work and the other dangers inherent in many of the trades in which night work is practiced, reinforce each other, so that such trades are really extra-hazardous. . . . The effect of night work on the health of the worker depends chiefly on its duration, both as to the number of nights and in point of the number of hours in the twenty-four. . . . Any frequent interference with nature's plan of rest at night is harmful, but the evil increases with the increase in the number of hours, and becomes unendurable when the working night is as long as the maximum working day.

The thing to be considered, however, is not only the amount of actual night work, but also the length of the whole working period. . . . Even a short stretch of night work is clearly injurious when it follows after a long, or even a normal, working day. At this point the question of night work is complicated by that of long hours—which are universally held to be a menace to health. Prof. F. Erismann of Zurich, in his report on night work, makes special mention of "over-time" that extends into the night, and declares it to be a grievous exploitation of the workers. (Page 1263.)

Injuries from Late Overtime.—Germany.

Drucksachen des Kaiserlichen Statistischen Amts, Abth. für Arbeiter Statistik, Erhebungen Nr. 3, Teil I. 1903. [*German Imperial Office of Statistics, Department of Labor Statistics.*] *Über die Arbeitszeit der Gehilfen und Lehrlinge in Handelsgewerbe und kaufmännischen Betrieben.* [*On the Hours of Shop Assistants and Apprentices.*] (*Investigation made in 1901.*) *Berlin, 1904.*

The blame for many bad conditions must be ascribed to the absence of adequate legal restrictions on length of working time. So long as working hours are not limited, the employer does not meet extra work by bringing in extra help, but by overworking his staff by overtime . . . for the work must be done. (Page 34.)

It is often hard to define "overtime". The line between "working time" and "overtime" is not easily drawn unless "working time" is specifically limited by law. . . . The testimony shows that many business firms keep their employees busy until near midnight or even 1 a.m. Such overtime is often due to inadequate accommodation or to poor management, and disappears when these are improved. From Düsseldorf the reports stated that this excessive overtime, often persisting for months and running until late in the night, was complained of by all who were affected by it as the greatest hardship they had to endure. (Page 41.)

Ermüdung durch Berufsarbeit. [*Occupational Fatigue.*] Dr. Emil Roth. *Proceedings of the Fourteenth International Congress of Hygiene and Demography, Berlin, 1907. Vol. II. Sec. IV.*

My experience and observations do not permit me to feel any uncertainty in believing that the injury to health inflicted upon even fully capable workers by the special demands of a periodically heightened rush of work is never compensated for. Under this head we must con-

sider the demands of all seasonal work, and those industries where piece-work with overtime is the rule during several months in the year, as also the special rush seasons in shops, before Christmas, etc., etc. We observe toward the end of such periods a marked increase in the amount of sickness, and with a frequent repetition of forced drafts upon strength the injurious results can no longer be repaired by longer pauses, or reduction of hours, or diminished demands upon the working capacity. Similarly in laundries the overstrain of the last part of the week is so great that it cannot possibly be balanced by the relatively easier work of the first part. (Page 610.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes dans l'Industrie en Autriche.* ILSE VON ARLT. *Jena, Fischer, 1903.*

What we have just said (regarding evils of night work) is equally applicable to establishments less important than factories, with this added circumstance, that the fatigue arising from the day's work is increased by late overtime, making the task still more arduous.

Here, after a day's work already too long, when, after 12 or 14 hours of toil, "night work" must be accomplished in addition, the body becomes incapable of enduring the more intensive demands which are unremittingly made upon it. This overtime is the most destructive form of night work, and it is found in all those establishments that are not classed as factories. (Page 82.)

. . . The suitable limits of working time vary with individuals but it is acknowledged that not only is a regularly long day of work injurious, but also that a single isolated instance of over-strain may be harmful to a

woman all the rest of her life,—a fact that is of importance for workers in seasonal trades, and all the more so because the general ignorance of people as to hygiene for women gives no reason to anticipate any initiative for reform among the workers themselves. (Page 86.)

Royaume de Belgique. Office du Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night-work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

Evening work is not prohibited in Austria in small establishments. It will be of very great interest to inquire into the use made of this liberty. But it is disheartening to find that the development attained by authorized evening work is very great.

It is especially at Vienna that abuses are very numerous, and sometimes very grave.

Here, as elsewhere, it is a matter of additional or overtime work succeeding and superimposed upon the normal activity of the working day and prolonged to a late hour of the night: to midnight, 1 or 2 o'clock, and even later in some cases.

M. von Klein recognized that the whole lot of working women subject to this overwork is very unhappy. (Page 178.)

According to an official inquiry made in March and April, 1896, "the abuse varied in gravity according to trades. It must be recognized that in the majority of cases (the "inquiry extended to fifty-eight distinct trades") the evil was of wide extent. All the testimony given during the course of the inquiry had a monotonous and saddening similarity. Almost always, the evening work—during the season—continued until 1 or 2 o'clock in the morning. The next day it was necessary to be at work at an early hour, under penalty of a serious deduction from wages." (Pages 180-181.)

B. THE SPECIAL NEED OF PROHIBITING NIGHT WORK OF WOMEN

1. Greater Mortality Among Working Women.

The physical differences between men and women are emphasized by statistics of the relative mortality and morbidity of the sexes. The most recent statistics show that the mortality of working women is far higher than that of working men, and also far higher than that of other women not at work. This excessive mortality of women coincides with the years of highest child bearing capacity, that is between the ages of fifteen and thirty-five years. Yet the excess of mortality cannot be ascribed to child bearing alone. Statistics prove that even where the birth rate is low, the mortality rate of working women still exceeds that of men.

The dangers of industrial night work for women arise from their special physical organization taken in connection with the strain incident to factory and similar work.

Night work, therefore, which strains endurance to the utmost, is more disastrous to the health of women than of men, and entails upon them more lasting injury.

Greater Mortality of Women.—Germany.

(*a*) *In Comparison With Workingmen.*

Krankheit und Soziale Lage. [*Morbidity and Social Status.*] *Edited by* Dr. M. Mosse *and* Dr. G. Tugendreich. *Der Einfluss der Sozialen Lage auf Krankheit und Sterblichkeit der Frau* [*Influence of Social Status on the Morbidity and Mortality of Women.*] Dr. Wilhelm Weinberg. *Berlin, Lehmann, 1913.*

. . . We find everywhere an increased morbidity among wage-earning women in comparison with wage-earning men. (Page 236.)

We find a similar relation in the comparative mortality figures from the Leipsic Sickness Fund. For every 100,000 persons the deaths for men and women are as follows:

Number of Deaths per 100,000 Persons.

Age Group	Compulsory Members		Voluntary Members		Totals	
	Men	Women	Men	Women	Men	Women
15-20	274	307	2456	1402	286	339
20-25	463	493	4144	1516	493	556
25-30	492	601	1552	1414	520	691
30-35	587	657	1986	1303	565	757
35-40	850	666	2031	1142	928	762
40-45	1126	726	2744	822	1260	749
45-50	1421	993	3375	1443	1604	1123
50-55	2032	1229	3013	1686	2135	1363
55-60	2622	1694	4208	2273	2830	1875
60-65	3589	1919	6769	2876	4088	2234
65-70	5475	3299	7039	3531	5819	4113
70-75	6654	4967	8415	6030	7224	5389
75—	9546	5051	14035	13636	11663	9551

Greater Mortality of Women.—Germany.

For the total number of members the mortality of women bore the following relation of that of men:

Female Mortality for All Members of Fund Given in Percentages of Male Mortality.

Ages	Per cent.
15-20	119
20-25	113
25-30	133
30-35	115
35-40	82
40-45	99
45-50	70
50-55	63
55-60	66
60-65	55
65-70	71
70-75	73
Over 75	82

The excess of female mortality is thus seen to be concentrated in an even smaller space of years than the excess of morbidity.

This, however, is true only for the wage earning members of the fund. We have now to inquire what the relative figures are in the total population, and in the total female population.

We shall first compare the female mortality in the Leipsic Sickness Fund given in percentages of the male mortality with the corresponding figures made up from the mortality statistics for all Germany and those recorded separately for Prussia and Bavaria.

Greater Mortality of Women.—Germany.

Female Mortality Given in Percentages of Male Mortality.

Age Groups	Leipsic Sickness Fund	Mortality Rates for Germany	Prussia	Bavaria
15-20	119	92	88	97
20-25	113	99	85	
25-30	133	104	100	97
30-35	115	103		
35-40	82	90	95	104
40-45	99	76		
45-50	70	68	70	77
50-55	63	71		
55-60	66	74	72	76
60-65	55	84		
65-70	71	90	86	88
70-75	73	94	95	95
Over 75	82	—	96	96

It appears then that among the members of the Fund, female mortality in comparison with male mortality shows a much sharper rise in the years of the activities of motherhood than among the total population, while after the change of life the female mortality is lower.

This last phenomenon may perhaps be due to the fact that the women who continue in industry past this age have an especially strong physique. (Pages 237-238.)

As the total result of the preceding facts we may affirm in spite of our defective statistical information that the influence of social station on the morbidity and mortality of women is considerable. The influence of factors making for morbidity is especially strong in the years of development and full maturity and is especially noticeable in women in whose case a heavy tax on the maternal functions coincides with the necessity to assist in the family support or to be chiefly responsible for it through their own industrial activity in addition to the duties of house-wife.

We find therefore especially unfavorable circumstances in the case of farmers' wives and the wives of farm laborers on the one hand and the case of factory workers and workingmen's wives on the other.

Factory work in early youth and factory work for

married women during the period of motherhood and especially in pregnancy is particularly unfavorable to health. (Page 257.)

United States Congress. Senate Document No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. XIV. Causes of Death Among Woman and Child Cotton Mill Operatives. 61st Congress, 2nd Session, 1910 Washington, 1912.

1. The effect of cotton operative work upon health, as reflected in the death rate, differs widely between the sexes. For the thirty-year age period from 15 to 44, in which the majority of the operatives are found, the death rates of males and females in the general population are almost identical, the male rate being 6.19 and the female rate 6.18. A comparison of the death rates of male and female nonoperatives shows the rate for males to be 22 per cent in excess to that for females (male rate, 6.48; female rate, 5.31). When, however, the comparison is confined to the death rates of operatives the female rate shows an excess of 33 per cent over the male (male rate, 5.74; female, rate, 7.63) despite the younger ages of the female operatives. (Page 31.)

In the nonoperative class it will be seen that the death rates for females are in most age groups below those of males. The groups 15 to 19 and 25 to 29 are exceptions, but here the excess for females is not great. For the group 15 to 44 as a whole the female death rate is 18 per cent below that of males.

In the operative class, the death rates of females are in all age groups in excess of those of males, increasing to an excess of 104.1 per cent and 102.4 per cent in the groups 35 to 39 and 40 to 44.

The significance of these comparisons should not be overlooked. The death rate of females, which outside of the cotton industry is considerably more favorable than

that of males, in this industry in the period 35 to 44 is more than double that of males, and in the entire 15 to 44 group is one-third higher.

If the death rates from tuberculosis only are compared, among the operatives the female rates for ages 15 to 44 are 21.7 per cent in excess of those of males, an excess being found in all groups except 20 to 24 and 40 to 44, and rising to 188.3 per cent in the important age group 25 to 29. Among nonoperatives, on the other hand, the death rates for females are 39.7 per cent below those of males, the female rate being in excess in only two groups, 15 to 29, and 25 to 29.

In similar manner the female death rates from nontuberculous causes are in excess among the operatives, being about double those of males between 35 and 44, and slightly lower among the nonoperatives, the same tendency appearing in most of the age groups. (Page 75.)

If the figures for Fall River for three years be regarded as representative, it will be seen that the death hazard to female operatives as a whole from all causes is about one-third greater than that to male operatives, in spite of the fact that the average age of the females is younger than that of the males. Looking at the two groups of death causes separately, the hazard to female operatives is plainly greater from nontuberculous causes than from tuberculous. (Page 78.)

Death Rates from All Causes, Age Group 15 to 44, for Operatives and Nonoperatives, by Sex, Fall River and Three Cities (Fall River, Manchester, and Pawtucket).

	Operatives		Nonoperatives	
	Males	Females	Males	Females
Fall River:				
1 year	6.93	8.59	7.89	4.99
3 years	5.74	7.63	6.48	5.31
Three cities:				
1 year	7.10	8.11	8.05	8.14

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Greater Mortality of Women.—United States.

(*b*) *In Comparison With Non-Operative Women.*

United States Congress. Senate Document No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. XIV. Causes of Death Among Woman and Child Cotton Mill Operatives. 61st Congress 2nd Session, 1910. Washington, 1912.

In the present study, for instance, when accurate mortality statistics for the country's chief cotton manufacturing city were collected it was found that among female cotton operatives in the three age groups 15 to 24 years, 25 to 34 years, and 35 to 44 years, the average annual deaths from tuberculosis per 1,000 were respectively two and one-quarter times, two and a half times, and five times as numerous as among women of the same age groups outside of the cotton industry. The female operatives in the first of these groups comprised one-half, in the second, one-third, and in the third, one-fourth of the total female population of the city within the specified age groups, so that the high death rate from tuberculosis cannot be ascribed to any peculiar and limited factors which might affect a small number, but must be taken as characteristic of the industry. Moreover, in each of the specified age groups there was a similar though smaller excess in the death rates from nontuberculous causes among female operatives, as compared with the corresponding death rates among the female nonoperative population.

It is evident that when the established death rates make such a showing as the above, if any investigator should declare, after due research, that debility was extraordinarily common among female cotton operatives as compared with female nonoperatives of the same age, the burden of disproving his assertion would be clearly placed upon the cotton industry. Or, if this could not be done, it would then be incumbent upon the industry either to show this excessive prevalence of ill health and extra-

ordinarily high mortality among its female operatives was due to causes not connected with the cotton manufacturing industry, or else to accept the responsibility for these highly undesirable conditions. (Pages 18-19.)

In the age groups within which operatives and nonoperatives are fairly comparable, female operatives have a decidedly higher death rate than nonoperatives. This is most marked in respect to tuberculosis, the death rate of female operatives from this cause being in general more than twice that of nonoperatives, and in some of the race and age groups running up to many times as high. Thus, in the age groups 15 to 24 years, 25 to 34 years, and 35 to 44 years, the death rates from tuberculosis per 1,000 were, respectively, two and one-fourth times, two and one-half times, and five times those among women of the same age groups outside the cotton industry.

An examination of different factors which might effect the death rate, especially from tuberculosis, such as native or foreign birth, tuberculous kindred or intimates, overcrowding, sanitary condition of homes, etc., fails to show any such massing of unfortunate conditions among the female operatives as would explain their unvarying higher death rate.

Hence it seems impossible to escape the conclusion that operative work is prejudicial to the health of females, that the combination of operative work with matrimony is especially harmful, and that, while the general hazard of the female operative is greater than that of the nonoperative, she is in most danger from tuberculosis. Whether the harmful effects of operative work are greater than those of other industrial employments, and whether they inhere in cotton textile work as a whole or are due to certain occupations carried on within the mills, are questions for further investigations to answer. This has established the fact of the high mortality among female cotton operatives and of their special susceptibility to tuberculosis. (Pages 31-32.)

Practically 50 per cent of the female operatives are found in the two groups, ages 15 to 19 and 20 to 24 years,

while only 18.2 per cent of the female nonoperatives are found in these age groups. This relative youthfulness of the operatives greatly increases the impressiveness of their high death rate. Of the female operative deaths 32.1 per cent occur between 15 and 25, during which period only 4.2 per cent of the female nonoperative deaths occur. (Page 70.)

omparing the death rates per 1,000 of female operatives and nonoperatives, the greatest excess, 96.1 per cent, appears in the 35 to 39 year group, which contains approximately one-twelfth of all the female operatives. In the age group 40 to 44 the excess in the operative rate is 91.5 per cent, but the group is numerically less important, constituting only 5.8 per cent of all female operatives. In the most important age group 20 to 24, which contains 25.1 per cent of all female operatives, the excess in the operative death rates is 85 per cent, and in the next most important group, 15 to 19 years, containing 24.6 per cent of the female operatives, the excess is 72.3 per cent. (Page 70.)

Both male and female operatives show a greater relative mortality from tuberculosis than non-operatives, but the difference is much greater among female than among male. Among female nonoperatives it will be noted that the highest proportions of tuberculous deaths are found in the age groups 15 to 19 and 20 to 24, although such deaths are fewer than in the next two groups, the reason being, of course, that other deaths are numerous at these early ages. Among the female operatives of the same ages, deaths from other causes are much more numerous, and consequently, though the tuberculous deaths are twice or more than twice as numerous as among nonoperatives, the percentage they form of the total deaths is by no means proportionately greater. (Page 71.)

For the female operatives the death rate per 1,000 is in all groups and classes save one (nontuberculous deaths, 25 to 29 years) largely in excess of that for female nonoperatives. The rates, however, from tuberculosis show an extraordinary excess. This, in the important age

groups 15 to 19, 20 to 24 and 25 to 29, the excess in the tuberculous rate for female operatives is respectively, 102.7, 153.5, and 164.9. The rates from nontuberculous causes are in the most important age groups, 15 to 19, and 20 to 24, over 50 per cent in excess of those for non-operatives. In considering the period 15 to 44 years as a whole, the massing of operatives in the youngest groups, where death rates would normally be low, must always be borne in mind. Were operatives, and especially female operatives, equally distributed among the age groups, the excess of the operative over the non-operative death rate among females would be even greater than it is now and the nonoperative excess among males might disappear altogether. (Page 73.)

When the death rates found to prevail in the 5-year age groups of the non-operative population are applied to a population distributed as to age in the same manner as in the female operative population, the difference between operative and nonoperative death rates are increased. Thus, in the age group 15 to 44 the tuberculous death rate per 1,000 for female operatives was 1.95 in excess of that of female nonoperatives, the nontuberculous rate was 1.21 in excess, and the rate from all causes was 3.16 in excess, representing an annual excess for the entire female operative population of 35 deaths. (Page 74.)

Morbidity and Mortality according to Occupation. Dr. Jacques Bertillon, *Chief of the Municipal Statistical Department of Paris.* [*Trans. from the Journal de la Société de Statistique de Paris, October-November, 1892.*] *Journal of the Royal Statistical Society, December, 1892.*

Women between 20 and 45 show a considerably greater morbidity than men of the same age; above 45 their rate approaches that of the men. At least it is so in the Lyons Silk-Workers' Society, in the Italian societies,

and (as far as can be judged from a table in which there is no distinction of age) in the Vienna Arbeiter-Casse. At the same time it should be noted that among the Lyons silk-workers not only the morbidity but also the mortality* of females is considerably above that of the males, whereas the opposite holds good with the population as a whole. It is thus at least permissible to enquire whether there be not some peculiarity in this employment which is hurtful to the health of the women engaged in it. The Italian table, which includes a great number of occupations, also brings out a higher rate of morbidity for women than for men, and their mortality at each age (calculated, however, from too small a number of cases) is greater than that of the men.

Table II. Comparative Morbidity of the Two Sexes.

Age of the members	Lyons Silk Workers (1872–1889)				Italian Societies (1881–1885). (Corrected figures.)					
	Annual average number of members		Morbidity. Days of sickness per annum per member.		Mortality. Deaths per annum per 1000 members		Morbidity. Days of sickness per annum per member.		Mortality. Deaths per annum per 1000 members.	
Years.	Mas.	Fem.	Mas	Fem.	Mas	Fem	Mas.	Fem.	Mas.	Fem
18 and 19	96	479	1.76	2.18	...	...	...	....	...	....
20–24	607	3897	3.06	6.37	13.0	10.2	5.0	7.8	6.3	....
25–29	1481	6100	3.40	7.49	5.4	9.3	5.4	8 0	5.9	9.1
30–34	2507	7377	3.37	7.64	6.4	9.2	5.1	8 9	6.2	10.7
35–39	3259	8209	4.32	7.62	6.4	8 9	6 0	7 7	7.8	8 1
40–44	3142	8161	5.29	7.64	10.2	6.2	6.2	9 3	9.2	10.0
45–49	3569	7720	5.89	8.12	11.8	13.5	6.8	8.2	11.6	8.9
50–54	3214	6429	8.04	9.58	20.2	14 3	7 9	9.3	14.9	14.1
55 59	2964	5021	8.38	11.01	19.5	21 9	9.2	9.7	22.2	15.9
60–64	2623	3795	11.15	14.52	40.7	41 9	11.2	10.0	32.5	....
65–69	1956	2617	16.73	18.57	67.0	55.0	13.4	8.2	50.4	..
70–74	999	1146	19.76	24.48	88.0	85.4	14.7	....	73.6	....
Above 75	378	366	26.90	30.87	148.0	161.0	13 4	....	...	.. ..
Average	27093	61317	7.81	9.39	23 4	17.6	6.6	8.5	11.7	10.7

The tables of the Vienna Arbeiter-Casse point also to the fact that the morbidity of women (526 cases and

* The general mortality of the women (without distinction of age) is, on the other hand, less than that of men, while the mortality at each age is greater. To explain this apparent anomaly, it is sufficient to consider the first two columns in Table II: it will be seen that nearly half the women (42 per cent) are under 40 years of age, whilst only a quarter (26 per cent) of the men are under 40. The female members being younger, it is not surprising that their general mortality is lower than that of the men, although their mortality at any particular age is greater.

9,255 days of sickness per annum per 1,000 women) is above that of men (427 cases and 8,366 days). (Pages 564-565.)

Handbuch der Medizinischen Statistik. [*Handbook of Medical Statistics.*] DR. FRIEDRICH PRINZING. *Jena, Fischer, 1906.*

As to the danger to life to women in industry the statistics are scanty: those of the Austrian sick insurance offices for 1891-95 are almost the only figures that offer considerable material as to women in industry on this point (mortality). According to them, the women engaged in industrial labor not only have a far higher mortality than working men, but also their mortality between the ages of 15-50 years is higher than that of the remaining female population. Compared with men, the mortality of working women between 15-60 years is as 100 (men) to 109 (women). (Page 492.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry: Reports on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Jena, Fischer, 1903.*

For England . . . since the rigorous enforcement of the protective legislation concerning them, the total mortality of women has fallen much below that of men. The ratio of the mortality of men to that of women, 1841 to 1850, was 23.11 per cent for men to 21.58 per cent for women; from 1881 to 1890, as 20.22 per cent to 18.01 per cent. The diminution of these figures shown by comparing the earlier with the later period should be attributed to the great hygienic progress realized during the interval; and the relatively greater reduction of female mortality should be attributed to the protective

legislation for the workers, and doubtless also to the activities resulting from sick benefits. By way of reaction, this fortunate condition was shown in the figures of infant mortality. (Pages xxxvii-xxxviii.)

The following figures for the German Empire, giving the proportional figures for men and women in the Sickness Insurance Department, show that after 1891, when women were legally protected, their mortality diminished more than that of men.

ONE TO ONE HUNDRED.

Years.	Men.	Women.
1890	1.05	0.75
1891	0.99	0.74
1897	0.91	0.63
1898	0.87	0.61
1899	0.93	0.66

(Page xxxviii.)

2. Greater Morbidity Among Working Women.

(*a*) *General Morbidity.*

Statistics of morbidity among wage-earners have in the past been meagre. Yet in all countries where such statistics are available, the morbidity of women has been found to be higher than that of men.

This fact was unexpectedly proved anew by the operation of the recent British National Health Insurance Act, reported on in 1914 and 1916. The societies having any large proportion of women members exceeded actuarial estimates by 25% to 100%. Among the important causes of this excess of sickness women was the character of their industrial employments, involving long hours, long standing, etc., combined with household work.

This excess of sickness among women as compared to men, like the excessive mortality pointed out above, coincides with the years of highest childbearing capacity. The higher morbidity of women, however, persists until after middle age, that is until 55 years of age. Authorities agree in ascribing the higher incidence of sickness among women to general causes of ill health as well as to the strain of childbearing and special female illnesses.

British Ministry of Munitions; Health of Munition Workers Committee. Memorandum No. 4. Employment of Women. London, 1916. (*Signed on Behalf of the Committee by* Sir George Newman, M. D., *Chairman.*)

It will be generally admitted that in considering the conditions of employment of women workers as com-

pared with those of men, account must be taken not only of physiological differences but also of those contributions which women alone can make to the welfare of the State. Upon the womanhood of the country most largely rests the privilege of creating and maintaining a wholesome family life and of developing the higher influences of social life. In modern times, however, many of the ideals of womanhood have found outward expression in industry and in recent years hundreds and thousands of women have secured employment within the factory system. (Page 3.)

It may be stated broadly that conditions which press hardly upon the average man press, because of her different constitutional development, with greater severity upon the average woman; while similarly, though conditions of mental fatigue are probably equally injurious to boys and girls, conditions of muscular strain well borne by the ordinary boy may be highly detrimental to the girl of corresponding vigour and physique. It is therefore especially important that women and young girls should be relieved from those conditions of overstrain to which they are now so widely exposed. (Page 5.)

National Health Insurance. Interim Report of the Departmental Committee on Approved Society Finance and Administration. May, 1916. London, Unwin, 1916.

10. Turning to the case of women, in the absence of reliable information as to the incidence of women's sickness, the basis of the provision made for sickness was the same as in the case of men. The provision thus made was based upon the actual experience of men, but heavily weighted for various contingencies. If in adopting this basis, it was considered that the additional liability which women as a whole might be expected to present, as compared with men, might be measured by the same

loading factor that was put on to meet the extra risks of every kind in the case of men, we should not regard that view of the problem as an unreasonable one to have been taken under the conditions prevailing in 1911. But we regard it as clear in the light of the fuller knowledge now available, that the pressure of sickness claims in the case of women was underestimated.

11. Figures similar in scope to those supplied to us in the case of men have been obtained for women and are as follows:

	1913 d.	1914 d.	1915 d.
Actual expenditure on sickness and maternity benefits (in pence per week)	2.51	2.60	2.04
Corresponding expected expenditure	1.78	1.85	1.85

(Page 7.)

Women in Modern Industry. B. L. Hutchins. *London, Bell, 1915.*

The Insurance Act has been the means of a more startling propaganda. The results following the working of this Act shew that although women are longer lived than men, they have considerably more sickness. The claims of women for sick benefit had been underestimated, and many local insurance societies became nearly insolvent in consequence. (Page XIV.)

Anaemia is a frequent result of overstrain, not to mention the constant colds and rheumatism due to overheated rooms. The sickness among women from these and other worse evils alluded to above have become apparent for the first time through the serious strain put on sick benefit funds in the first year of the Insurance Act. At one very important centre of the cotton trade, out of 8056 members 2800 received sick benefit in the first twelve months. The Insurance Act, whatever its defects, has at all events given many poor women the chance to take a little rest and nursing that they sorely needed and could not afford. The sneer of "malingering" is

easily raised, but it is doubtful whether real malingering has much to do with it. The conditions of industry, greatly improved as they are from the sanitary point of view, are certainly increasing the kind of strain that women are constitutionally least able to bear. (Page 188.)

National Health Insurance. Report of the Departmental Committee on Sickness Benefit Claims under the National Insurance Act. London, 1914.

Special Considerations Affecting Women's Insurance.

Prevalence of Sickness among Women.

163. Beyond these contributory causes to the fact that the sickness claims in the case of women exceed so greatly the actuarial expectation there can be little doubt that the main cause of the excess lies in the fact that the incidence of sickness among women employed in industrial occupations generally is heavier than was anticipated, or could have been calculated when the actuarial estimate was framed. This fact, which we regard as fully proved, is put in different ways by different witnesses. Thus one witness with a long experience of the management of a women's sick club says: "We are convinced that our sickness experience is right, that these girls ought to be paid and that they would have been much longer ill if they had not been paid." A witness, who was inclined to attribute a considerable proportion of the excess to what is called malingering, on the part of women, agreed at the same time that "women are weaker than men" and that, "it would be natural to expect more sickness from women than from men." Another witness of great experience says, "We had not realised that it would be so much. We thought that young women would be more healthy. We have found a great deal of anaemia and debility which we attribute to conditions of employment", and the same witness says, that "probably if adequate

treatment were forthcoming, the disparity between the men's and women's sickness rate would be less. I do not think that it would disappear, but it would be less."

164. On the medical side, the point is pressed by many witnesses. "I am under the disadvantage," says Dr. Bond "of only speaking locally, but with regard to the facts I have gained locally, there does seem to be great disparity on the side of women. . . . I think the underlying basis is greater in the case of women. Whether it is absolutely level, and equal to the claims is another matter, but there is an underlying excess of actual want of bodily health, depreciation of health, in women as against men." Again he says: "I should think that locally there is a considerable excess among women, except in certain classes of women; for instance, domestic servants. . . . I am inclined to think that there is more sickness among women than among men, which has become revealed by the Insurance Act and that it is normal to the conditions of the population under our industrial conditions. I am inclined to think that there is an underlying element of increased predisposition among women which has become modified to a certain extent by possible psychological reasons towards increased claims. . . . I think the legitimate impression among medical men is that sickness incidence . . . is greater among women than among men."

165. Another doctor states "there is not the slightest doubt that women for some reason or other, are ill oftener than men; they suffer from more complaints than men. That is to say, they consult the doctor more, and they seem to be ill oftener." This view is supported by Dr. Rogers, who says, "I think from my experience, not as an adviser, but as a medical man, that certainly the female sex are more liable to ailments, especially among the working classes." He excludes from the generality of this statement infants and young children, but speaking of women from 14 years upwards, is of opinion that they are more liable to disease. Dr. Broster, who has already been quoted with reference to the amount of real illness

with which he has been brought into contact under the Act, associates this more with women and girls, and means, not women's diseases, but "general ill-health . . . all sorts of illness and disease". Dr. Richmond, in commenting on the impression of low vitality made upon him by many of his patients, says that this "is much more pronounced in the case of the women."

166. Some witnesses are inclined to attribute this excessive predisposition to disease in the case of women principally to conditions of past child-bearing. Thus one witness attributed it to the fact "that the health of married women is affected by their child-bearing functions", and states that "the bulk of the diseases of the married women can be traced to special diseases, and troubles in connection with childbirth." Dr. Bond, while accepting the view that this "is a big factor", points out that "there are also the beginnings of illness in the puberty period and the anæmias of young women." Dr. Cox thinks that "a great many of them were evidently due to maternity sickness and a great many of them may be put in the arrears of sickness class of cases where women have gone back to work too soon after confinement, and have got various chronic complaints which are now being discovered."

167. It may be safe to assume that some part at least of the excess of illness among women is due to these latter causes, but apart from them the evidence would appear to substantiate the allegation that women among the industrial classes are more liable to sickness than men. (Pages 50-51.)

Interim Report of the Committee of Inquiry instituted by the Fabian Research Department in July, 1913. (Sidney Webb, *Chairman.*) *The New Statesman, March 14, 1914. Special Supplement on the Working of the Insurance Act.*

The excess of sickness has revealed itself mainly in the women's societies. There are some in which the

amount required to pay Sickness Benefit has been, throughout the year, twice as much, (and we have heard of even three and four times as much) as the Commissioners' standard. With the exception of certain specialised societies dealing with domestic servants, clerks, nurses, shop assistants, and such teachers as are not excepted from the Act, and of one or two societies of special character, we have reason to fear that practically all the societies having any large proportion of women members have exceeded the estimate, perhaps by as much as 25% —some of them indeed by 50 and even 100%. (Page 3.)

Our investigations, imperfect as they have been, leave us in no doubt as to the prime cause of the excess of Sickness Benefit over what was anticipated. It is due to an excess of sickness. (Page 4.)

It was expected by those familiar with the life of the submerged tenth that their enforced brigading into insurance would bring to light the low level of health at which the whole class exists. The new fact that stands revealed is that under the stress of present conditions of employment, practically all groups of industrial women wage-earners, far from having a sickness experience approximately equal to that of men (as the Government actuaries, whilst disdaining responsibility, actually assumed), have one very considerably in excess of men. (Page 5.)

Perhaps the gravest of all the grave facts that the working of the act has revealed is the terribly low standard of vitality at which millions of our working people are living. Economists and physiologists demonstrate that with prices and rents as they are a family maintained on a pound a week cannot possibly obtain enough of the bare necessities of life. It naturally suffers from chronic ill-health. We find in fact that the millions of families at or below the pound a week level in our great cities are—if we judge by the standard of health that the professional classes expect—practically always ill. (Page 26.)

Greater Morbidity of Women.—Germany.

Krankheit und Soziale Lage [*Morbidity and Social Status*]. *Edited by* Dr. M. Mosse *and* Dr. G. Tugendreich. *Der Einfluss der Sozialen Lage Auf Krankheit und Sterlichkeit der Frau.* [*Influence of Social Status on the Morbidity and Mortality of Women.*] Dr. Wilhelm Weinberg. *Berlin, Lehmann, 1913.*

Social Differences in Morbidity and Mortality.

So far as a general view is possible, we find everywhere an increased morbidity in the case of wage-earning women in comparison with men. This is true for physical and mental work alike. Thus in Stettin from 1902-3 to 1908-9 we find in the case of men teachers between 2.8 and 5 cases of sickness, and in the case of women teachers 6.4 and 10.3, and from 1904-5 to 1908-9, 6.7 days of sickness to a man to 14.8 days of sickness to a woman teacher. In Kiel, Mannheim, München, Hamburg and Magdeburg similar differences were found.

According to the statistics of the District Sickness Fund of Leipsic of one hundred individuals observed there were:

	Cases of Sickness with inability to work.	Days of Sickness.	Cases of Sickness lasting 13 weeks.
Among male members (Compulsory)..	39.6	855	0.44
Among female members (Compulsory)	41.8	1030	0.28
Among male members (Voluntary)....	78.5	2860	1.05
Among female members (Voluntary)..	66.9	2439	0.28
Total male members	41.3	943	0.47
Total female members	44.3	1170	0.28

Here the morbidity of women in comparison with that of men is also higher but not to the same degree as in the case of teachers; the number of cases and days of sickness among working women is even lower than among teachers.

Greater Morbidity of Women.—Germany.

In the matter of severe cases of sickness lasting over 13 weeks, the women stand better than the men. (Page 236.)

But we gain a deeper understanding of this contrast only by comparison of morbidity according to age groups. . . .

If we take the totals in the Leipsic Sickness Fund without distinction between voluntary and compulsory members we obtain the following figures.

Age Group	Cases of Sickness per 100 persons		Days of Sickness per individual	
	Men	Women	Men	Women
Under 15 years	38.0	29.0	5.9	5.5
15-20	37.6	36.4	6.3	8.0
20-25	36.3	42.1	6.9	10.4
25-35	38.0	50.2	8.0	14.2
35-45	44.3	55.3	11.0	16.7
45-55	51.7	54.3	14.9	16.9
55-65	60.2	54.9	21.2	19.6
65-75	75.7	66.6	33.2	27.4

We see from this comparison that the higher morbidity of women in contrast with men is confined to the time of puberty and reproduction through the menopause, and is most marked from the age of twenty to thirty-five years, the time of the greatest tax on the maternal functions. (Pages 236-237.)

We find then the highest birth-rate precisely in those classes where in addition to heavy demands on the maternal function, wives are expected, either frequently, or, in the case of the farming class regularly, to do heavy physical work, and it is at once evident that these double claims may easily overtax their powers and result in excessive incidence of sickness and death among women, especially at their period of highest fecundity.

It would nevertheless be a mistake to ascribe the entire excess of morbidity and mortality in women to this one cause. . . . In the statistics of the Leipsic Sickness Fund we find in the case of women in comparison with men a very high mortality and morbidity rate during the

reproductive period although there were only 73 births to 1,000 women, while in Germany there were 143 and in the country in particular many more. (Page 243.)

From this table we see that the direct consequences of pregnancy and confinement are not enough to explain the special morbidity of women, and that diseases of the reproductive and digestive organs and general sickness contribute to it very considerably. (Page 244.)

Ibid. Arbeit bezw. Beruf in ihrem Einfluss auf Krankheit und Sterblichkeit. (Influence of Occupation on Morbidity and Mortality.) Dr. Franz Koelsch. *Berlin, Lehmann, 1913.*

Morbidity. I must last of all speak briefly of the work of women and children as a factor in morbidity. A woman on the average has but 60 to 70% of the labor power of a man; even if their weight is the same, the woman's muscular system is less developed. For these physiological reasons less work can be assigned to a woman than to a man. If the demand is increased her physique soon shows symptoms of over-fatigue. Thus out of 145 working women of different occupations in a sanitarium, Roth found overwork the cause of anemia, chlorosis, neurasthenia, etc., in the case of 110 (75%). (Page 164.)

United States Public Health Service. Public Health Bulletin No. 76. 1916. Health Insurance. Its Relation to the Public Health. B. S. Warren, *Surgeon, U. S. Public Health Service and* Edgar Sydenstricker, *Public Health Statistician, U. S. Public Health Service.*

The factor of sex renders the problem of the health of the wage-working population more acute and complex. In view of the generally accepted fact that in the population as a whole the female mortality rate is less than the male, it would seem reasonable to assume that, excluding

confinements, the female morbidity rate is not greater than the male. Among women employed as wage-workers, however, these conditions are apparently reversed. (Page 28.)

Statistics for over 16,000 Government employees working in the departments at Washington, D. C., of whom over 4,000 were females, show for the year 1914 that males lost an average of 4.82 days and females 8.90 days on account of sickness. This difference, as generally shown by records of morbidity for wage-earning men and women, can not be explained altogether on the ground that days lost on account of confinement are included in the statistics for female workers. In the Austrian statistics for insured persons, where time lost on account of confinement is separated from the total time lost on account of disability, the disability rate for males and females varies. For example, in the years 1890 to 1899 the female rate is higher than the male, whereas in the years 1900 to 1907 the male rate is higher than the female.[1] When, however, the differences due to accidents, which are included in the statistics, and the higher average age of the males are considered, it is very probable that the sick rate for women is higher than the male sick rate, even when time lost on account of confinement is excluded. (Page 30.)

Bulletin of the United States Bureau of Labor Statistics, No. 175. Women in Industry Series, No. 5. December, 1915. Summary of Report on Condition of Woman and Child Wage Earners in the United States.

The reports on health and safety bring out several points not usually recognized. . . . They establish conclusively the fact that the death rate is much higher

[1] Amtliche Nachrichten betr. Unfall- und Krankenversicherung, 1892-1909, quoted in Twenty-fourth Annual Report of the United States Commissioner of Labor, 1909. Vol. I, p. 276.

among women working in cotton mills than among women not so employed, and that female operatives are especially susceptible to tuberculosis. (Page 28.)

Reference Handbook of the Medical Sciences. Hygiene of Occupation. Vol. VI. 1903. GEORGE M. PRICE, M.D., *Medical Sanitary Inspector Health Department of the City of New York.*

In many industries . . . female labor is very largely employed; and the effect of work on them is very detrimental to health. The injurious influences of female labor are due to the following factors: (1) The comparative physical weakness of the female organism; (2) The greater predisposition to harmful and poisonous elements in the trades; (3) The periodical semi-pathological state of health of women; (4) The effect of labor on the productive organs; and (5) The effects on the offspring. As the muscular organism of woman is less developed than that of man, it is evident that those industrial occupations which require intense, constant, and prolonged muscular efforts must become highly detrimental to their health. This is shown in the general debility, anæmia, chlorosis, and lack of tone in most women who are compelled to work in factories and in shops for long periods.

The increased susceptibility of women to industrial poisons and to diseases has been demonstrated by a great number of observers. The female organism, especially when young, offers very little resistance to the inroads of disease and to the various dangerous elements of certain trades. Hirt says, "It must be conceded that certain trades affect women a great deal more injuriously than men"; and he mentions, among others, the effects of lead, mercury, phosphorus, and other poisons. Even where there are no special noxious elements, work may produce, as already mentioned, harmful effects on the health of women; but when to the gen-

eral effects of industrial occupation are added the dangers of dust, fumes and gases, we find that the female organism succumbs very readily, as compared with that of the male. (Page 321.)

Bulletin of the United States Bureau of Labor Statistics, No. 118. April, 1913. Ten-Hour Maximum Working-Day for Women and Young Persons.

The necessity, from a hygienic point of view, of increasing the protection accorded to women has been demonstrated in the memorandum on the prohibition of night work. Since then the fact of their greater morbidity, which is increased, due to their clothes and the manner of wearing their hair, in establishments where poisons are used and dust is generated, has been brought out still more strongly by the result of the inquiries on "Sickness and Mortality in the Local Sick Fund for Leipzig and the Surrounding District," Berlin, 1910. Among insured persons between 25 and 34 years of age, the proportion of cases of sickness among the men was 36.8 per cent, and among the women 47.7 per cent. The number of days of sickness of women between 15 and 54 years is also greater than that of men of the same age.

Industrial occupations, domestic duties, and motherhood impose a very great burden on most women. If, then, it is impossible for a woman with a large family to do her washing and cleaning except on Saturday nights, and if her vitality is often prematurely exhausted even when she is employed for only 10 hours a day, the excessive strain to which the women in industrial employment are put in countries where long hours are worked is bound to result in self-neglect on the part of the mothers and in the neglect of their children.

Kayserling shows that the mortality from tuberculosis among women belonging to the age class most represented by female workers, *i. e.*, those under 25 years, have risen in Berlin in the last 20 years proportionately to the mortality among men. Kayserling expresses the

opinion that the increase in the mortality from tuberculosis among girls and women of that age class is a symptom of the reaction of the female organism against the increased pressure of industrial employment. . . .

Finally, among other evidence, statistics given for the establishment sick fund in the chemical industry for the period just before and just after the reduction of hours of labor tend to diminish the frequency of sickness. (Pages 49-50.)

Fabrikhygiene und Gesetzgebung. [*Factory Hygiene and Legislation.*] Dr. Fridolin Schuler, *Swiss Factory Inspector. Proceedings of the Sixth International Congress of Hygiene and Demography, Vienna, 1887. Vol. I. Reports of the Hygiene Sections, No. XIV.*

. . . . Statistics of morbidity in Switzerland in those industrial establishments where men and women are at work together. In one year's time in the same trade the proportion of cases of illness was as follows: Women, 127; men, 100. The number of days lost compared thus: Women, 150; men, 100. These proportions become more divergent when the workers are under 18 years of age. Thus, for such workers we find: proportion of cases of sickness, girls, 174; boys, 100. Taking the statistics of cotton mills only, we find the proportion of cases of sickness, for women, 156; for men, 100. These figures alone, to go no further, show the necessity of special protection for those who, without this legal protection, are liable to be frightfully exploited. (Page 29.)

Untersuchungen über die Gesundheitsverhältnisse der Fabrikbevölkerung der Schweiz. [*Investigations into the Conditions of Health of the Swiss Factory Workers.*] Dr. Fridolin Schuler, *Swiss Factory Inspector, and* Dr. A. E. Burckhardt, *Professor of Hygiene, Basle. Aarau, Sauerländer, 1889.*

There are great varieties in the morbidity of the two sexes. In general men showed a greater frequency of sickness than women. In 1000 general cases there were among men 291 cases of illness; among women, 257. This result is partly induced by the large number of workers in mechanical shops who fall ill. If, however, the figures are taken solely from workers in the same occupation the results are often reversed. So, for example, in cotton mills (spinning processes), where women show a morbidity of 128: 100 as compared to men, and in cotton factories (weaving processes) of 139: 100. In the silk mills the proportion of illness among the women is even more extreme, while in machine embroidery it is nearer to a balance—111: 100. (Page 33.)

Die Herabsetzung der Arbeitszeit für Frauen und die Erhöhung des Schutzalters für jugendliche Arbeiter in Fabriken. [*The Reduction of Women's Working Hours and the Raising of the Legal Working Age for Young Factory Employees.*] Dr. August Pieper and Hélène Simon. *Schriften der Gesellschaft für Soziale Reform, Heft 7-8. Jena, Fischer, 1903.*

The daily toil in factory or shop, the harm that—aside from the inevitable mental and physical exertion—arises from harmful bodily postures, such as continuous sitting or standing, and from the dust or steam that fill workrooms, has been becoming more extensive with the lapse of years, and the longer the hours of work, the more serious are the bad results of these conditions.

Greater Morbidity of Women.—Germany.

The statistics of the Sickness Insurance Societies, both as to the relatively longer duration of attacks of illness among working women, show an astonishing amount of sickness under the present working hours. The reports of the factory inspectors for 1899 upon the employment of married women in factories show that they especially suffer an alarming extent of ill-health, and that this is, in many cases, directly traceable to beginnings long before marriage. (Pages 4-5.)

In contrast to the usual "occupation diseases" (as lead colic, etc.) are the characteristic diseases of weakness among women wage-earners, viz., anæmia and chlorosis; as in the printing trades of Berlin, where among the 4734 women there were 296 such cases, but only 72 among all the 11,801 men insured in these trades.

When the dangers to both sexes are alike, the figures of the sick fund are always higher for women, unless the totals are complicated by accidents.

It is so in textiles, glove and shoe trades, in the post-office and in cigar manufacture. The Cigar Makers' Local Sick Fund of Berlin in 1899 showed 29.7 per cent of sickness cases for men to 41.0 per cent for women. . . . According to Wirminghaus the percentage of illness in all Germany in 1888 in cigar-making was 0.20 for men and 0.25 for women, while the percentage for the whole country in spinning and weaving was 0.61 for men and 0.72 for women. (Page 93.)

Ehret die Frauen. [*Honor to Women.*] EMANUEL WURM. *Die Neue Zeit, XXIII*[2]. *1905.*

In 1903 there were 1,000,000 and more women working beside the 4,000,000 men in German mills and factories. . . . The factory laws have some protective regulations, but not nearly enough to equalize the woman's far inferior physical power of resistance with that of men. The indisputable proof of this lies in the far higher percentage of illness among the women operatives as shown by the sick fund. Many such funds, as, for in-

stance, those of the textile industry, with its membership of 420,000 women and 380,000 men in 1903, are, by this disproportionately high morbidity of women, in the most embarrassing financial situation. (Page 157.)

Législation et Réglementation du Travail au point de vue de l'Hygiene. [*Labor Legislation and Regulation from the Standpoint of Hygiene.*] M. EDOUARD VAILLANT, M. R. C. S. *Proceedings of the Tenth International Congress of Hygiene and Demography, Paris, 1900.*

. . . All reduction of daily and weekly working hours must be regarded as important hygienic progress.

If we study the statistics of morbidity and mortality in the different trades, and seek to isolate, as far as possible, the effects of dangerous trades and of working hours, we shall see very plainly in the reports of factory inspectors, and especially in the insurance records of Germany and Austria, that the reduction of working hours has succeeded, in a few years' time, in bringing down the totals of morbidity and mortality even below the total of trades that are considered relatively more healthy, but where the length of hours has not been decreased. (Pages 515-516.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail des Femmes dans l'Industrie en Autriche.* ILSE VON ARLT. *Jena, Fischer, 1903.*

According to the testimony of the Sickness Insurance Societies, women, when subjected to the same work as men, have a larger percentage of illness, this predominance being attributed to the influences of industrial

labor, since the loss of time incident to childbirth is classified separately. It is much to be regretted that there are no data available which might enable us to judge how women would stand as to health, compared with men, provided that they were only employed during periods when their working capacity was unimpaired. Such data would not simply have purely theoretical interest, but would enable us to determine with precision the dangers to which women are exposed in the different industrial lines, and to elaborate protective measures for them upon an exact basis. (Page 100.)

Frauenarbeit in Oesterreich. [*Women's Work in Austria.*] CAMILLA THEIMER. *Vienna, 1909.*

Statistics have definitely showed that the weaker female constitution appears to be more harmed by factory work than the male constitution. For every 100 cases of illness among the male workers in the various branches, there are, on an average, 139 among the female workers. (Page 249.)

b. *Duration of Illness Greater Among Women.*

The morbidity of women, measured by the number of days lost through illness, is greater than that of men. That is, women suffer from illnesses of longer average duration than men do,— and consequently are more disastrously affected by exhaustion from night work.

Untersuchungen über die Gesundheitsverhältnisse der Fabrikbevölkerung der Schweiz. [*Investigations into the Conditions of Health of the Swiss Factory Workers.*] Dr. Fridolin Schuler, *Swiss Factory Inspector, and* Dr. A. E. Burckhardt, *Professor of Hygiene in Basle. Aarau, Sauerländer, 1889.*

If, however, not only the frequency but the average duration of single cases of sickness is observed in the two sexes, it will be found that the duration of illness averages, among men, only 85 per cent of that among women. And this prolonged duration of illness is not only found in single branches of industry, but throughout all—probably from various causes. For the woman not only belongs to the "weaker sex," but she is also the one who makes most effort to employ herself usefully in the house, even when she is not well enough to work in industry—contrary to the man whose work is entirely outside of the house. . . . More favorable figures for women are only found among youthful workers. (Pages 33-34).

Die gegenseitige Hilfsgesellschaften in der Schweiz im Jahre 1903. [*Mutual Aid Societies in Switzerland in 1903.*] *Berne, 1907.*

Of 100 men insured, an average of 26.76 received sick relief, but of 100 women only 24.26.

The men who received sick relief averaged 23.55 days of illness; the women average 32.46.

The women, therefore, gave a lower percentage of relief, but a longer average of sick time, and, as a result of these two circumstances together, the average morbidity of the women is higher than that of the men,—7.87 as against 6.30. (Page 42.)

Encyclopédie d'Hygiene et de Médecine Publique, T. 6. Edited by Dr. Jules Rochard. *Le Travail des Enfants et des Femmes dans l'Industrie.* [*Industrial Labor of Women and Children.*] Dr. Alexander Layet. *Paris, Delahaye, 1894.*

The few statistics that we possess on these lines show that the morbidity of women is greater than that of men in the same trades.

The Mutual Aid Society of Silk workers at Lyons (with 4117 members of all ages and both sexes) in 1889 found that the days of sick time for the men in its membership amounted to 1522, and for the women, during the same time, 3978. Between the ages of 20 and 40, the days lost by sickness averaged 3.56 apiece for men, and 7.28 for the women. (Page 721.)

Italian Workman's Aid Societies with mixed membership showed the same results. Thus, while between 20 and 40 years each man in the membership lost 5.4 days' average by sickness, the women's average was 8.1. (Page 722).

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Jena, Fischer, 1903.*

From the hygienic point of view it is evident that the protection of wage-earning women can have only good

effects, when we remember that the susceptibility of women with regard to disease germs is greater than that of men. According to the data of the statistics of diseases of the German Empire there have been for each case of sickness among the men 16 days, and for each case among the women 18 days of assistance or treatment at the hospital during the years 1888-1899. In Switzerland, judging from the researches made by F. Schuler and A. E. Burkhardt (1889) on the health conditions of factory workers, the average duration of sickness has been 21 days for men and 25 days for women. (Page xxxvii.)

Handbuch der Hygiene, Bd. 8[1]. *Edited by* Dr. Theodore Weyl. *Allgemeine Gewerbehygiene und Fabrikgesetzgebung.* [*General Industrial Hygiene and Factory Legislation.*] Dr. Emil Roth. *Jena, 1894.*

The investigations of Schuler and Burckhardt, embracing 18,000 members of Swiss sickness insurance funds (about 25 per cent of the Swiss factory workers and fifteen industries), show that factory work, even in a short period, produces very unfavorable effects upon the development of the body of young men. It is even more conspicuous in the case of women. Thus, of 1000 men in the manufacture of embroidery, 302 were sick to 332 women. In bleaching and dying, 279 men, 316 women; also in cotton spinning and weaving, the morbidity of women was much greater than of men.

Similarly, the number of working days lost through illness was more among women than among men, being 6.47 among women to 6.25 among men.

With increasing years, both frequency and duration of illness increase. (Page 7.)

Greater Duration of Illness.—Germany.

Ibid. Hygienische Fürsorge für Arbeiterinnen und deren Kinder. [*Hygienic Care of Working Women and their Children.*] DR. AGNES BLUHM.

A second form of physical inferiority in women is their lower resistance to external injurious conditions. (Page 83.)

All statistics dealing with the relative morbidity of men and women employed in factories justify the deduction that the greater number of days lost from work by women indicate that disease makes greater inroads upon them, and that in general industrial labor is more injurious to women than to men. (Page 85.)

Jahresberichte der Gewerbe-Aufsichtsbeamten und Bergbehörden für das Jahr 1903. Bd. I. Preussen. [*Reports of the Factory and Mine Inspectors, 1903. Vol. I, Prussia.*] *Berlin, Decker, 1904.*

The following figures are taken from the statistics of the local sickness insurance societies for men and women in tailoring and allied trades (chiefly dress-making establishments of Berlin) and also, for the first time, for those employed in home industries (needle trades), for the year 1901. Corresponding figures for all the German Sickness Insurance Societies throughout the Empire, with over nine and a half million members, are given from the imperial statistical year-book for 1900 and 1901:

	Tailoring trades.	General German Statistics.	
	1902.	1900.	1901.
Cases of illness per member	0.36	0.39	0.38
Days of illness per member	9.21	6.82	6.91
Average duration of an illness	25.6	1.74	18.1

Greater Duration of Illness.—Germany.

The figures showing cases of illness to each member are seen to be lower in the tailoring trades, but those showing the average days of illness and the average duration of illness are both considerably higher. This difference is largely due to the women members, who constitute ninety-two per cent. of the workers. The figures relating to the men tailors approach more nearly to those of the General Imperial Statistics. (Page 71.)

Handbuch der Medizinischen Statistik. [*Handbook of Medical Statistics.*] Dr. Friedrich Prinzing. *Jena, Fischer, 1906.*

The days of illness per person average, to every 100 persons, as follows:

Age.	Frankfort.		Austria.		Bockenheim	Mutual Leipzig, 1856–80.		Ital. Workingmen's Society 1866-75.
	Men.	Women.	Men.	Women	Men.	Men.	Women.	Men.
Under 15	14.7	18 4	12.6	14.5	10.3	...	....	17.9
15–20	16.4	19.3	13.7	16.1	12.5	19 3	21.6	23.4
20–30	19.3	24.6	14.3	18.0	12.3	19 9	30.3	24.9
30–40	22.7	31.4	15.9	20.2	13.9	24.0	33.4	25.4
40–50	27.1	31.6	18.6	21.6	17.9	30.7	37.9	28.2
50–60	32.9	45.4	21.4	23.9	19.4	38.9	44.4	30.3
60–over	38.9	58.1	29.8	31.3	26.0	44.1	55 1	36.8
Average	21.6	24.4	16.5	18.8	14.3	27.4	35.0	27.3

(Page 110)

The appearance of anæmia and chlorosis among women is unusually frequent, especially when the cases of those who continued at work are included. In Frank-

fort, about one-fifth of all the insured women members have medical treatment for these troubles. (Page 116.)

Geschäftsbericht der Ortskrankenkasse für Leipzig und Umgegend, über das Jahr 1907. [*Report of the Local Sick Fund of Leipsic and Environs for 1907.*] *Leipzig, Bär und Hermann, 1907.*

Most of the published statistics speak only of "members" without distinguishing between men and women. How different the curve actually is for men and women is shown in the following table:

Age	Days of sickness for	
Years.	One hundred Men.	One hundred Women.
Under 15	595.0	533.5
15-19	617.4	753.6
20-24	657.1	955.0
25-29	707.5	1,205.4
30-34	813.6	1,395.1
35-39	940.9	1,465.3
40-44	1,088.0	1,453.3
45-49	1,243.4	1,495.9
50-54	1,456.2	1,489.8
55-59	1,704.7	1,485.0
60-64	2,068.9	1,631.7
65-69	2,760.3	2,376.0
70-74	3,456.3	2,530.5
75 and over	4,042.9	2,512.1

(Page 74.)

The curve of women shows how injuriously the double task of being woman and wage-earner affects them. It is evident their number of days lost through sickness during the years of development and child-bearing capacity is greatly in excess of those lost by men. The younger women, those under 15, have a more favorable curve of morbidity than boys of the same age. From 15

to 54 years women are more subject to loss of time from illness than men. Only when the active period of sex life has passed does the woman's curve again show her superior resistance to morbidity as well as to mortality. (Page 75.)

Kaiserliches Statistisches Amt. Statistik des Deutschen Reichs. Bd. 186. [*Imperial Office of Statistics. Statistics of the German Empire.*] *Die Krankenversicherung im Jahre 1906.* [*Sickness Insurance for 1906.*] *Berlin, 1908.*

According to Heym, among 100 cases of illness, the length of time lost by men as compared with women was as follows:

	Men.	Women.
14-25 weeks	3.5%	5.7%
26 weeks and over	2.3%	2.8%

Prinzing adds to this: "Sickness of short duration is almost twice as frequent among men as women; but with sickness of a longer duration (more than 3 weeks), the case is exactly reversed." (Page 12.)

c. *Continuance at Work During Illness.*

Women suffering from minor illnesses continue at work more commonly than men. That is, women have fewer illnesses involving complete loss of earning capacity, more illnesses during which they continue to remain at some form of work. Hence night work is doubly injurious to them, because often performed when health is already impaired.

Again, the investigation of the British National Health Insurance Act reinforces the earlier testimony of manufacturing countries as to women's continuance at work during ill-health.

National Health Insurance. Report of the Departmental Committee on Sickness Benefit Claims under the National Insurance Act. Memorandum A. MARY R. MACARTHUR. *London, 1914.*

The National Insurance Act has done great service in bringing to light a mass of suffering and a number of social evils, as to which the nation as a whole was ill informed or indifferent. . . . The committee has recorded its conviction that women are more liable to incapacity by sickness than men, and it is my contention that (apart from normal physical reasons) this extra sickness of women is due to their greater poverty, and to the character of their employment. Long hours, long standing, lack of fresh air, long intervals without food, are undeniably especially in the case of anaemic girls detrimental to health, and the low wages attached to most women's employment involve insufficient and often improper food. . . . The report, however, gives a very brief summary of the evidence given by doctors and

others as to the results of poverty in feeding, overstrain and want of rest. The cumulative effect of this evidence is so weighty that I add an additional summary.* . . . It is not surprising that under the terrible strain of child-bearing, wage-earning, and household drudgery, women break down.

*The evidence of the Foresters (A. O. F.) is to the effect that the secretaries of the courts believe (19,488) that there are practically no unjustifiable claims. The representatives of the Independent Union of Boot and Shoe Operatives say (5,686), "I do not think there is one of them" (*i. e.*, those on benefit) "who is not bad and hardly fit to be at the factory, but previously some of them have worked with a greater determination . . . they would not give up until they were absolutely compelled." Dr. Olive Claydon thinks (22,726) that the members unwilling to return to work when fit are very few in number. Dr. Layton (Walsall) thinks (29,167) there are very few unjustifiable claims. He adds (29,527-8), "I have no doubt that a great many of the societies have been astonished to find the number of these factory girls who have gone sick. We knew perfectly well . . . that this was going to happen." "They had no business to be at work before. Lots of girls got seriously ill by reason of the fact that they went to work when they had no business to." And with reference to the reluctance of his patients to return to work, "Now they are able to lie up they realize how bad they are" (29,683). Dr. Harry Roberts, who has had a very large experience in Stepney among casual labourers, dock labourers and a large number of women employed on rope work, rag sorting and poorly paid occupations, says (29,922) "the people we find who linger on . . . are those girls who do rag picking and people of that sort" (*i. e.*, the very poor), anaemic girls and women before and after confinement," and speaking generally of his patients says (29,972), "*Half these people are working in a state of health which most people in our class would call ill.*" In the précis of evidence prepared by the British Medical Association the same view is expressed, "there is a general agreement that patients are now doing what many of them have never been able to do before, namely, staying away from work until really fit to return." Again, "even the medical profession has been surprised at the number of cases of persons who have never had medical attendance before . . . and who really needed rest and sickness benefit. This is *particularly the case with employed women* . . . large numbers of whom have struggled on for years in spite of actual sickness or depressed health, because they could not afford to take the rest they so much needed." The

Continuance at Work During Illness.—Great Britain.

Women in Modern Industry. B. L. HUTCHINS. *London, Bell, 1915.*

The claims of women for sick benefit had been underestimated and many local insurance societies became nearly insolvent in consequence. A cry of malingering was raised in various quarters, and we were asked to believe that excessive claims could be prevented by stricter and more careful administration. This solution of the problem, however, is quite inadequate to explain the facts. There may have been some malingering, but it has occurred chiefly in cases where the earnings of the workers were so low as to be scarcely above the sickness benefit provided by the Act, or even below it. In other cases the excess claims were due to the fact that medical advice and treatment was a luxury the women had previously been unable to afford even when they greatly needed it; or to the fact that they had previously continued to go to work when unfit for the exertion, and now at last found themselves able to afford a few days' rest and nursing; or finally to the unhealthy conditions in which they were compelled to live and work. (Pages XIV-XV.)

British Medical Association also quote a correspondent in West Ham who mentions "the normally low standard of health in female city workers as being a distinct factor in the increased claims." Dr. Cox (30,034) similarly speaks of the "great surprise to the average member of the medical profession to find so many people who apparently in the past never had any treatment at all." Dr. Farman says, speaking of women (33,453), "there may be (*i. e.*, excess) over what was generally anticipated, but certainly not over what I anticipated. In fact, I was surprised that we had not had more sickness."

Dr. Belding, speaking of doubtful claims among women attributes them to a general poor standard of health. "They" (his patients) "are in fact chronically overworked" (34,502).

Miss Hughes (40.277) says "the women especially did not go sick when they were beginning to be ill" before the Act, "they worked on until they got very ill indeed." The nurses now notice (40,278) that illnesses are more often taken in time.

Dr. Richmond (of Bermondsey) says (38,431) "I do not think that we realized what the effect of the Act would be in bringing to our knowledge the sickness that exists." This, he says, (36,433) is a great deal more true of women than of men. (Pages 78-79.)

Continuance at Work During Illness.—Germany.

Handbuch der Medizinischen Statistik. [*Handbook of Medical Statistics.*] DR. FRIEDRICH PRINZING. *Jena, Fischer, 1906.*

The records next below show only those cases of illness that entailed incapacity for work. The numbers, as before, show the percentage, exclusive of confinements.

Age.	General Relief Fund. Some voluntary members.		Vienna 1896 Trade Societies' Funds (Genossenschaftkasse)		Mutual (Gegenseitigkeit). Leipzig. 1858-80.		Italian Workman's Society. 1866-75.
	Men.	Women	Men.	Women.	Men	Women.	Men.
Under 15	43.4	30.9	38.2	26.9	...	...	28.0
15–20	56.9	46.9	40.2	36.5	29.5	20.3	29.6
20–30	51.6	48.0	29.4	26.9	25.6	20.8	25.0
30–40	58.3	46.8	27.9	26.3	24 5	19.6	24.4
40–50	55.4	52.9	35.3	28.2	26 1	18.8	24.8
50–60	57.0	49.9	41.8	30 6	28.1	18.4	26.3
Over 60	68.0	59.2	56.2	41.4	31.7	21.5	31 2

The differences in frequency of illness in the above tables could only be explained by a thoroughgoing consideration of the details of the management of the sick funds. . . . (Page 107.)

The difference in morbidity between the two sexes is obvious. In general, women have fewer illnesses involving complete inability to work, than men. . . . On the other hand, illness without loss of earning capacity is much more frequent among the women. (Page 108.)

The total list of all the Berlin sickness insurance offices for 1898 show that to every hundred men insured, 39.46 had illness attended with loss of earning capacity, and of every hundred women, 37.64 had illness attended with loss of earning capacity. (Page 115.)

Inquiries have all shown that the number of sick cases with loss of earning capacity do not in themselves

alone give a correct idea of the morbidity of an occupation. (Page 125.)

To estimate the morbidity of an occupation those cases of illness which do not necessitate loss of earning power must be considered. It is then found that many occupations which appear favorable when loss of earning power alone is considered, have actually a much worse standing. So, for instance Frankfort on the Main in the year 1896, has the following tables:

Men.	Cases of Illness				To every 100 Members (including both sick and well)			
	20-30 Years.		30-40 Years		40-50 Years.		50-60 Years.	
	Able to earn.	Not able.	Able to earn.	Not able.	Able to earn.	Not able.	Able to earn.	Not able.
Factory Workers and Day Laborers	33	34	34	41	30	45	31	56
Porters, Packers.	40	24	46	30	51	31	52	33
Traffic men and Drivers...	32	31	28	30	26	41	34	53
Waiters, Cooks..	44	21	43	25	50	39	42	68
Salespersons....	55	21	41	20	45	34	60	26
Printers-lithographers.... ..	43	29	49	31	41	37	44	31
Tailors.....	44	21	52	28	37	32	53	37
Carpenters,.	40	33	50	37	27	30	43	54
Painters, Varnishers.....	28	29	33	35	40	53	46	58
Smiths (lock and other).....	49	36	42	34	43	55	41	48
All occupations..	41	29	38	35	37	40	40	48

(Page 126)

Continuance at Work During Illness.—Germany.

Among women the cases of illness without loss of earning capacity predominate in every occupation.

In Frankfort on the Main.

Women.	Cases of Illness.				To every 100 Members.			
	20–30 Years.		30–40 Years.		40–50 Years.		50–60 Years.	
	Able to earn.	Not able.	Able to earn.	Not able.	Able to earn.	Not able.	Able to earn.	Not able.
Factory and day workers. . . .	45	37	52	40	47	32	51	40
Servants	43	24	43	30	30	26	42	38
Waitresses, Cooks	46	21	35	18	58	34	25	41
Salesgirls	63	30	64	37	33	20	47	37
Sewing women	53	31	62	40	49	40	29	54
All occupations. .	51	31	51	36	42	33	41	40

3. Injury to Childbirth and Infant Welfare.

The evil effect of industrial overstrain of women, before as well as after marriage, is marked and disastrous upon the female functions and upon childbirth.

While many social and economic causes contribute to bring about a high infant mortality among working people, such as poverty, unsanitary surroundings, wrong feeding, overcrowding, etc., the most recent investigations have proved that the babies of mothers who worked in industry either during the year before or the year after the babies' births had a much higher mortality rate than the babies of mothers who were not so employed. Again, various factors contribute to this result. It is not factory work *per se* which alone exerts an injurious influence, but the inevitable conditions under which it is performed.

Long hours of standing, the strain and unfavorable environment of factory life tend to "increase the risk of complications in connection with child-bearing."

Moreover, married women who are employed in industry continue to have the double burden of industrial work and care of the home, so far as it can be attended to before and after working hours.

The usual lack of breast feeding and the enforced absence of the mother are among the main causes of the higher mortality rate.

Women who work at night are subject not only to the ordinary strain of industry but to the added dangers of night work. In countries in which night work has been

common, the effect has been found highly injurious to infant welfare.

Fifth Annual Report of the Chief, Children's Bureau. United States Department of Labor. 1917.

The infant mortality inquiry was the first field investigation of infant welfare undertaken by the bureau. . . . . .

Cities are selected in which births are registered, and the babies born in the given year are studied so as to learn the circumstances under which each child has lived or died during the 12 months following his birth. (p. 12)

Infant Mortality and Father's Earnings.

Because of the advance in living cost at the present time the relation of income to infant mortality is of particular importance. In these studies the earnings of the father have been taken as the income basis and the infant mortality calculated for successive income groups based on father's earnings. Each report shows approximately the amounts contributed by the mothers to the family income. The rise of the infant death rate when the mothers of young babies leave home to work is shown also. (p. 13)

Mothers in Industry.

A general belief appears to exist that the number of married women in industry has greatly increased since the war began, and that the number is likely to become much larger and to involve women with very young children who could not but suffer without their mother's care.

A preliminary inquiry was made by the bureau in June of the present year to discover the grounds for the belief. An agent of the bureau who was sent to the stockyards district in Chicago reported that the total number of women employed in half a dozen firms was

about 4500, of whom 40 per cent were married, and a considerable number had children of school age or younger. Women were working 10 hours a day, beginning at 7 A. M. and women were also employed at night. The agent wrote that—

"Most of the firms agreed that there has already been an increase in the number of women at work in the yards and in the proportion the married bear to the single women. . . .

"The employers feel that within the next few months it will be practically inevitable that this increase in the number of women employed and in the proportionate gain of married over single women employes will go still further."

Inquiries in other parts of the country secured no precise information. It is plain, however, that the industrial employment of married women is likely to increase in this country as it has abroad.

Clearly, no mere prohibition of the employment of mothers of young children in industry will meet the case. Local councils of defense may well question the necessity for such work on the part of individual mothers and resort to pensions and allowances as a substitute if the family needs demand, rather than permit the increased infant mortality, which follows the employment of the mothers of nursing infants away from the children. (Page 20.)

Infant Mortality. Results of a Field Study in Manchester, N. H. Based on Births in One Year. Beatrice Sheets Duncan & Emma Duke. *United States Department of Labor. Children's Bureau. Infant Mortality Series No. 6, 1917.*

Stillbirths.

A total of 79 stillbirths occurred among the 1,643 births included in this study. The problem of stillbirths is closely connected with that of the deaths of live-born

infants, especially the deaths due to prematurity and other prenatal causes. The stillbirth rate, or percentage of stillbirths, is given in most of the general tables parallel with the infant mortality rate.

The 79 stillbirths formed 4.8 per cent of all births considered in this study. (p. 31)

Gainful employment of mother.—Gainful employment of the mothers at some time during pregnancy might be expected, perhaps, to show a more definite relation to a high percentage of stillbirths than any other factor considered in this study. To some degree this appears to be the case for the group of babies under consideration. Mothers gainfully employed had a higher percentage than all mothers or than those not gainfully employed, but the highest percentage occurred among the mothers gainfully employed away from home and the lowest among those gainfully employed at home.

TABLE 16.

Employment of mother during year before baby's birth	Per cent of stillbirths
All mothers	4.8
Not gainfully employed	4.1
Gainfully employed	5.5
At home	1.8
Away from home	7.5

(pages 31-32)

Economic and Industrial Factors.

Babies born into the homes of unskilled workers where earnings are small face greater hazards than those in more fortunate circumstances. When the 1,564 live-born babies included in this study are grouped according to father's earnings, it is found that among the babies in the lowest-earnings group infant deaths are more than four times as frequent as in the highest-earnings group.

Another point which appears from a study of the findings is that gainful employment of the mother away from home was accompanied by a high infant mortality rate, higher even than that for all babies in the low-earnings group. (p. 38)

Father's earnings and employment of mother.—Gainful employment of the mother, in so far as it accompanies low earnings of the father, would naturally be associated with a high infant mortality rate. It may act independently, however, and either add to the disadvantages which the baby suffers on account of poverty or mitigate them according to whether the loss of the mother's care, which it involves, is offset or not by the added income. But in general the babies of working mothers in Manchester had a higher infant mortality rate than babies whose mothers were not gainfully employed. (p. 47)

Work during year before baby's birth.—Nearly half the whole number of babies included in the investigation had mothers who had engaged in gainful employment at some time during the year previous to the baby's birth. The occupations included 504 cases where the work was away from home, 427 cases of which were employment in the textile mills and 47 in other factories. (p. 50)

Babies of mothers gainfully employed during the year preceding the baby's birth had a mortality rate of 199.2 whereas the rate for babies of mothers who were not so employed from 133.9. The rate for babies of mothers whose gainful work was in the home was 149.8; for babies whose mothers worked away from home, 227.5. This latter rate is somewhat lower than the rate of 242.9 reported for babies in the lowest economic class—those whose fathers earned under $450. per annum. However, the total number of live-born babies whose mothers worked during the year previous to childbirth was 733, while the number whose fathers earned under $450. was only 210. In order to compare groups containing the largest possible number of coincidences between low

earnings and mother's work it is necessary to consider all live-born babies whose father's earnings were under $650. per annum. These babies numbered 750, and the infant mortality rate was 193.3, which is appreciably lower than the one quoted above for babies whose mothers were gainfully employed away from home the year previous to childbirth. (p. 51)

Work during year after baby's birth.—It remains to be demonstrated whether or not the gainful employment of the mother during some part of the year following childbirth is an independent factor in the infant mortality rate. (p. 52)

. . . The infant mortality rate for the 603 babies whose mothers were gainfully employed while their babies were still alive is 122.7—a rate almost identical with that for babies whose mothers were not gainfully employed.

The rate of 122.7 is made up of two rates—one of 92.3 for the babies whose mothers were gainfully employed at home during the baby's life-time and one of 161 for those whose mothers were thus employed away from home. Evidently employment of the latter sort is the one, if either, to be considered a factor in infant mortality.

A careful examination of the original schedule discloses the fact that of the mothers who were gainfully employed outside the home while their babies were still alive not one was thus employed before the baby was at least 2 weeks old. The mortality rate, 161 for the babies of these mothers, is therefore a rate for a selected group of babies who survived at least 2 weeks and should be compared with the rate for the remaining babies who survived at least 2 weeks. In all, 1,508 infants survived at least two weeks—267 whose mothers went out to work while their babies were alive and 1,241 others. In this latter group occurred 159 subsequent infant deaths—a mortality rate of 128.1, which is markedly lower than the rate of 161 for the babies whose mothers

were gainfully employed outside tho home during the baby's lifetime.

Significance of mother's absence.—The evil effects of the mother's gainful employment away from home while the baby is alive lie primarily in depriving the child of the mother's care and in substituting artificial feeding for breast feeding. The younger the baby the more marked the effect. Of the 119 babies whose mothers worked away from home before the baby was 4 months of age, 33 died before the age of 1 year. The mortality rate was 277.3. Among all other live-born babies, 1,445 in number, there occurred 225 infant deaths—a mortality rate of 155.7. But since the 119 babies were part of a selected group which had survived at least 2 weeks, the full significance of the rate, 277.3, appears only when contrasted with the rate of 121.7 for the remainder of the group, namely, 1,389 babies who had survived at least two weeks.

Clearly, from these comparisons, so far as our data revealed the actual conditions in Manchester, the gainful employment of mothers away from home during some part of the year following childbirth was accompanied by a marked increase in the infant mortality rate, particularly in those cases where the mothers were thus employed within four months of childbirth. (Pages 52-53)

Mother's work and infant mortality in low-earnings group.—The gainful employment of mothers, as has been shown, is closely connected in Manchester with the inadequate earnings of the father, and the high infant mortality rate among babies of employed mothers may be due to the low economic status of the family. In order, therefore, to separate the effects of the one condition from the effects of the other, the data concerning the employment of mothers in the group where the father's earnings were under $650 have been brought together in the following table.

TABLE 34. Employment of mother during year following baby's birth, where father's earnings were under $650.	Live births	Infant deaths. Number	Infant mortality rate.[1]
All mothers	750	145	193.3
Mothers not gainfully employed	322	43	133.5
Mothers gainfully employed	428	102	238.3
After baby's death	46	46	.....
During baby's life	378	52	137.6
At home	181	21	116.0
Away from home	197	31	157.4
Time of resumption not specified	4	4	.....

From this table emerges the significant fact that within the same low-income group the babies whose mothers were gainfully employed away from home while their babies were alive had a notably higher infant mortality rate than those babies whose mothers were not gainfully employed during any part of the year following childbirth. (p. 54)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

The twine works were repeatedly visited by agents of the Commission, both at night and during the day, and individual reports were secured, giving the personal histories of one hundred of the women who worked on night shift. (Page 193.)

Most of the 100 women specially investigated were married. There were 18 unmarried and 5 widowed. Of the 82 married or widowed nightworkers, 75 had children.

[1] Not shown where base is less than 100

Of the children 24 were infants under one year, 19 between one and two years, 18 between two and three years, 17 between three and four years, and 19 between four and five years. There were 43 children between five and ten years of age. In many cases the mothers explained that they worked at night though they found the labor exhausting, in order that they might nurse or take care of their children in the day time. "N. W. wants to do night work on account of baby." "N. T. is nursing her baby now and would rather work nights so that she can feed the baby in the day time"; such are the repeated reports of the investigators. Only a few of the women seemed to realize that this combination might prove disastrous.

"Mrs. M. N. . . . changed from night work to day work, because it took all her strength to stay up all day besides. Now working days she gets up and dresses, and cares for all the children before she goes to work.

"Another woman says she did not like night work. It was too hard. Quit three weeks ago. 'I used to be cross to my children when I worked nights, because I was so tired all the time'."

Even without night work it has been shown that the return of married women to factory work after childbirth increases the mortality of infants. Indeed, owing to complex causes a much higher death rate of infants exists in such manufacturing towns as Fall River, Massachusetts, and Biddeford, Maine, than in non-manufacturing towns.

What must be the result when in addition to the ordinary labor of mothers, the factory night work of mothers is added?

Ignorant women can scarcely be expected to realize the dangers not only to their own health but to that of the next generation from such inhuman usage. But it is precisely to prevent such conditions of toil as threaten the welfare of society that labor laws are designed. These instances show the urgent need of providing by law an adequate period of rest at night for women who work in factories. (Pages 196-198.)

Report of the Massachusetts Bureau of Statistics of Labor, 1871.

Predisposition to pelvic disease. There appears, as far as my observation goes, quite a predisposition to pelvic disease among the female factory operatives, producing difficulty in parturition. The necessity for instrumental delivery has very much increased within a few years, owing to the females working in the mills while they are pregnant and in consequence of deformed pelvis. Other uterine diseases are produced, and, in other cases, aggravated in consequence of the same. (Pages 505-506.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on its Importance and Legal Regulations.*] *Preface by* ETIENNE BAUER. *Interdiction du Travail de Nuit des Femmes en Allemagne.* DR. MAX HIRSCH. *Jena, Fischer, 1903.*

The effects of excessive factory work, especially the overtime and night work of women, upon the future is shown in two ways, before and after birth. Great importance attaches to the general effects of work in the generative organs, and on the total health of the working woman. A woman who has been weakened, exhausted, is known to be less able or totally incapable of bearing strong and healthy children. General and special ills, due to unfit work especially during pregnancy, often weigh heavily and in advance on future child-bearing capacity. Without counting that women employed in factories are often deprived of children (as for example in the district of Liegnitz, among 920 married working women out of 2,104), owing either to total sterility or frequent abortions, the children who survive are for the most part weak and suffer from all kinds of diseases, bearing within themselves from birth the seeds of premature death. (Page 26.)

Now if such are the effects of the normal work of women during the day time they are inevitably still worse when the work day is prolonged, especially at night or during the evening. Not only that with each hour of overtime the fatigue and weakness of the working mother increases in rapid progression, but precisely that period of the day when her care is most indispensable, she is removed from her maternal duties. If it is against Nature and impossible to replace the mother at any time, it is most impossible to do so during the evening and up to a late hour of the night. And when after thirteen hours of work in the factory, and after long journeys to and fro, the mother comes home overcome with fatigue to take some rest, has she at that moment enough physical and moral force to take care of one or more sick children? . . . If we do not unfortunately find exact reports on the disastrous effects of overtime and night work they are assuredly none the less revealed by well known and officially established facts. The centers of infant morbidity and mortality are found precisely in those districts where women's night work is most intense. We find this to be the case in the districts of Berlin, Charlottenburg, Frankfort, Magdeburg, Baden, Alsace and the Saxon districts of Zwicken and Ane and Planen. (Page 28.)

Die Fruchtbarkeit selbst arbeitender und den arbeitenden Ständen angehöriger Frauen. [*The Fertility of Women of the Working Classes and of those personally engaged in Industry.*] *Zeitschrift der Soziale Wissenschaft, VIII, 1905.*

This subject has been investigated by Prof. Ugo Broggi, who, in an article in the *Zeitschrift für Versicherungswissenschaft* (1 July, 1905) states that of 172,365 Italian women between the ages of 15 and 54 years who were employed in industrial occupations the average childbearing coefficient was only 45 per cent, or about one-

third of the general fertility of Italian women (120 per cent). The investigation, in detail, included 7029 working women in chemical industries and collieries. The average fertility was 46 per cent. 1595 women in food factories showed an average fertility of 39 per cent; 134,770 women in the textile trades, 39 per cent; and 28,971 in varied industries such as paper, wood, clothing, tobacco factories, etc., 73 per cent. Thus, throughout, a lower fertility than the normal. One exception only was noted, in the women employed by the state in the state tobacco manufactories, who, with a fertility of 104 per cent came nearest in their child-bearing capacity to the average of the entire female population. (Pages 663-664.)

Krankheit und Soziale Lage [*Morbidity and Social Position*]. *Edited by* Dr. M. Mosse *and* Dr. G. Tugendreich. *Arbeit bezw. Beruf in Ihrem Einfluss auf Krankheit und Sterblichkeit.* [*Influence of Occupation on Morbidity and Mortality.*] Dr. Franz Koelsch. *Berlin, Lehman, 1913.*

But even in the case of moderate demands on a woman's strength, protection against excessive strain is not insured, because, beside her industrial work a woman must attend to her home duties, while her physical powers are heavily taxed by the physiological functions of menstruation, pregnancy, and nursing. . . . Experience proves that a woman's physique is less resistant to morbid influences than a man's. This is true especially of women engaged in physical labor, workers by the day, factory workers, etc., whose excessive sickness rate must in part be referred to lack of rest during menstruation and after confinement. Women in higher grade occupations too, such as teachers, telephone operators, office employees, etc., have a higher morbidity and mortality rate than their male colleagues; this is due in general to their greater liability to exhaustion and neurotic disturbances, to diseases of the blood, tuberculosis, and diseases of the abdominal organs.

Moreover injuries to the health of the mothers are revenged on the next generation, especially in the case of industrial poisons. . . .; miscarriages, still-births, frail or degenerate children, and high infant mortality in the first year are the consequences. If we reckon on the average 33 still-births to 1,000 births, we may expect often 150 to 170 in case of injurious occupations. (Rübner). (Pages 164-165.)

Untersuchungen über die Gesundheitsverhältnisse der Fabrikbevölkerung der Schweiz. [*Investigations into the Conditions of Health of Swiss Factory Workers.*] Dr. Fridolin Schuler, *Swiss Factory Inspector and* Dr. A. E. Burckhardt, *Professor of Hygiene at Basle. Aarau, Sauerländer, 1889.*

The high morbidity of women is not a little influenced by the frequency of uterine disorders. It is known that, on the whole, women are more subject to diseases of the genitalia than men, yet the difference shown in the statistics of the sick benefit funds cannot be regarded as normal. These disorders are not equally prevalent in all occupations, nor do they always appear in the same varieties. Next to the kind of employment it is important to know whether the workers are married or single, and have borne children or not. Among young unmarried workers one finds lower figures, chiefly of menstrual disorders and slight catarrh. (Cotton mill and silk mill operatives.) The figures rise as the genital organs are more directly affected by the kind of work. Again, in certain industries (weaving, cotton print works), we find figures which call for serious consideration. Here the forms of disease become more threatening. Miscarriages are frequent, displacements and chronic metritis take a prominent place. If we wish to apply a remedy we must study all the circumstances which contribute to these abnormalities.

First of all, as already stated, the kind of work and way in which it is done must not be overlooked. Pre-

eminently must continuous standing, jarring of machinery, whirling dust, and direct or indirect pressure upon the abdominal organs be condemned. By the utmost possible avoidance of bad conditions much improvement may be reached even without excluding women from their share of industrial work. (Pages 170-171.)

British Sessional Papers. Vol. LV. 1873. Report to the Local Government Board on Proposed Changes in Hours and Ages of Employment in Textile Factories. J. H. Bridges, M.D., *and* T. Holmes.

Answers from Bradford Medico-Chirurgical Society, based on experience afforded by residence in the worsted manufacturing town of Bradford, and extensive practice among its population during periods of from one to thirty-five years:

A. Amongst the *women* of factory operatives, derangements of the digestive organs are frequent much more than among the general population.

. . . Other deranged states of a still worse character are present, *e. g.*, leucorrhœa and too frequent and profuse menstruation. Cases also of displacement, flexions, and versions of the uterus, arising from the constant standing and the increased heat of and confinement in the mill. (Pages 39-40.)

Signed on behalf of the Bradford Medico-Chirurgical Society, at a meeting held February 4, 1873.

Sub-Committee,

President, J. H. Bell, M.D.
P. E. Miall, M.R.C.S.
Secretary, David Goyder, M.D.

(Pages 39-40.)

Childbirth and Infant Welfare.—Great Britain.

Report of the Local Government Board, 1913-14. Supplementary Report of the Medical Officer of the Board. Third Report on Infant Mortality Dealing with Infant Mortality in Lancashire.

It is reasonable to believe that the industrial occupation of women, in so far as it exposes the pregnant mother to laborious work and strain, and in so far as it separates the infant from its mother, thus not only preventing suckling, but also diminishing the individual care which the mother can devote to her infant, must tend to increase infantile sickness and mortality. (p. 19)

Dr. S. Monckton Copeman's Report of an Investigation Into the Causes of Infant Mortality in the County Borough of Burney and the Adjoining Boroughs of Colne and Nelson.

In the case of married women attendance at work is not infrequently kept up until within a brief period, in some instances as short as one week, before confinement. The ill effect, both to mother and infant, is likely to be enhanced by the fact that, while at work, the women are kept on their feet during by far the greater portion of their working hours. There can likewise be no doubt that many of the women, after their confinement, return to work at far too early a period, occasionally even before the legal period of four weeks. Where this is the case it is obviously impossible for the mother to feed her baby at the breast, unless a *crèche* is provided at the mill, the infant, therefore, during her working hours at least, is handed over to the care of some relative, in default of whom it is put out to nurse at a small daily charge.

The fact of mothers going out to work may also have an indirect influence on the infantile mortality from bronchitis and pneumonia, in view of exposure to sudden changes of temperature, in the winter months, especially, involved in taking the baby from its bed, insufficiently wrapped up and possibly without food, and carrying it

at an early hour, and in all weathers, to the house where it is put out to nurse during the mother's absence. (p. 34)

Dr. Janet Lane-Claypon's Report on Infant Welfare Work in Lancashire.

Perhaps the most extensive difficulty in Lancashire is connected with the industrial employment of women, which occurs to a large extent in many of the towns and urban and rural districts.

Without entering upon the question of the relation between the industrial employment of married women and the infant death-rate, it may not be out of place to put forward a few points in connection with the life of married women employed in the mills.

In the majority of cases the pregnant woman works up to, or almost up to, the time of her confinement. She is induced to do this by the wages she may earn; in many areas, when trade is brisk, the demand for female labour exceeds the supply.

After confinement the same reasons tend to hasten the mother's return to work, and a large proportion of the women employed in the mills resume work as soon as the first month after their confinement has elapsed. The owners of some mills are stated to refuse work to married women within one month before or after confinement, but it is to be feared that these well-intentioned efforts are frequently evaded. . . .

This means that the infant must be left in the charge of some other person and except in very rare cases, must be at any rate partially weaned. The mother being absent at work all day, there is great difficulty both in finding her at home and in getting children brought to infant consultations.

The difficulties which confront the health visitor owing to the return to work of the mother fall, generally speaking, under two headings: (1) The condition of the home, and (2) the condition of the infant. Both these matters are admittedly the province of the health visitor.

Childbirth and Infant Welfare.—Great Britain.

(1) The Condition of the Home.

The conditions arising in many households consequent upon the return to work of the mothers leave much to be desired.

By working early and late many of the women maintain a fair standard of cleanliness and order in their homes. The strain on a woman who is at work in the mills all day and has to do the household cleaning and washing either before she goes out or when she returns from work must be very considerable, and can hardly be conducive to health. As a matter of fact the cleansing of the house must frequently be left for Saturday afternoon or Sunday morning. Where through physical disability or general fecklessness the mother is unable to fulfil her domestic duties, unsatisfactory conditions follow as a natural result.

The mother who is at work all day will very naturally cook as little as possible, and the family food must be purchased at one of the numerous shops where commodities can be obtained ready prepared. These will include potted or tinned foods, or other preparations calculated to excite a desire for food in those returning home after long hours spent in air which is far from fresh.

The food which is purchased ready prepared is, moreover, more costly than that which is cooked at home, and calls for a larger family income. (Pages 138-139.)

Report of the Local Government Board, 1914-15. Supplementary Report of the Medical Officer of the Board on Maternal Mortality in Connection with Childbearing and Its Relation to Infant Mortality.

No completely consistent relationship between excessive mortality from childbearing and a high degree of employment in factories is visible in these tables, though it can scarcely be doubted that a close association

exists between the two factors. It would appear that the influence of factory work or of some manner of life or conduct associated with factory work, operates to a much greater extent in some textile towns than in others.

The indirect as well as the direct effect of employment in factories of married women needs consideration. The desire not to incur the pecuniary loss incurred by temporary absence from work during pregnacy and after confinement in some instances may form a powerful inducement to the use of mechanical or chemical abortifacients. The suspicion that this practice is prevalent in certain quarters has already been mentioned.

Apart, however, from such practices, it is to be expected that the standing and the laborious work of factory life will tend to increase the risk of complications in connection with childbearing. (p. 57)

The New Statesman, February 21, 1914. Supplement on Women in Industry. Introduction. MRS. SIDNEY WEBB.

The axiom that the female of the manual-working, wage earning class needs less food, less rest, less recreation, and less instruction than the male follows her from childhood up to her seventieth birthday when at last she achieves the equality of the weekly 5s. pension to all aged persons. . . . And whilst the female is, from childhood right through her working life, given less to consume she is habitually expected to render a double service—to follow up her work in the school or the factory by supplementary work in the home. . . . When the women is a mother as well as a wife the double strain on her energies of industrial employment and child-bearing rises to a national disaster. We have grown accustomed to the direct result in the terrible infantile mortality of prosperous factory towns. Now that we shall have to pay for it out of the National Insurance Fund owing to the "excessive sickness" of the married women mem-

bers of "Approved Societies", the public conscience may perhaps at last be aroused. (Pages i-ii.)

The Hygiene, Diseases, and Mortality of Occupation. J T. ARLIDGE, M.D., A.B., F.R.C.P. *London, Percival, 1892.*

Continuous standing for hours together is a strain especially upon the arch of the feet and the ankle joints; a cause of weary spine and spinal curvature, favoring also pelvic fulness, and in the female sex, productive of derangements of the uterine functions and of uterine displacements. (Page 170.)

Infant Mortality. A Social Problem. GEORGE NEWMAN, M.D., D.P.H., F.R.S.E., *Lecturer on Public Health at St. Bartholomew's Hospital, London; Medical Officer of Health, Metropolitan Borough, Finsbury. London, Methuen, 1906.*

A nation grows out of its children, and if its children die in infancy, it means that the sources of a nation's population are being sapped, and further that the conditions that kill such a large proportion of infants injure many of those which survive. Last year, 1905, there was a loss to the nation of 120,000 dead infants, in England and Wales alone, a figure which is almost exactly one quarter of all the deaths in England and Wales in that year. (Page 2.)

And this enormous sacrifice of human life is being repeated year by year and is not growing less.

Nor is England alone. . . . The birth rate is declining in civilized nations with few exceptions; and the same may be said of the death rate. But the infant mortality rate, as a rule, is stationary or even increasing. (Page 7.)

There are two features, however, which appear to be common to the high infant mortality districts, namely,

a high density of population and a considerable degree of manufacturing industry. (Page 26.)

. . . Broadly, it is true that to whatever town or district we turn the same general conclusion is inevitable, namely, that where there is very much occupation of women away from home, there will be found as a rule a high infant death rate, unless there are exceptional circumstances counteracting it. (Page 109.)

But the mere fact of extensive employment of women, and particularly of mothers in factories, cannot be regarded as significant of itself. To gauge the effect of such employment on the children of such women reference must be made to some of the following factors which play a part in the problem, namely, (a) the character and condition of the work, (b) the length of hours, (c) employment before and after childbirth, and (d) the sanitation of factories and workshops. To these also should be added the variations in the birth rate prevalent in different trades, the effect of certain industries upon maternity in the way of raising (if such is possible) or reducing the standard and practice of mothers as to the care of infants, and, lastly, the causes of the mothers' employment.

I. The Character and Condition of the Work.

A moment's reflection will make it evident that it is not what is called "the factory system," which *per se* exerts an injurious influence upon women, and particularly married women, engaged in one or other of the many industries in which women are now employed. It is rather the conditions which obtain and the neglect of home life which is involved in certain trades or in certain factories. (P. 110)

. . . They are frequently persons struggling against adversity and endeavoring in an unequal combat to act as wage-earner and housemother. And experience shows that as a rule it cannot be done without evil results. For in addition to the natural anxiety and stress thus thrown upon the woman

there are the added strains of factory life, such as piece-work, hard physical labour, injurious trade processes, fatigue, and so forth. (P. 111)

Conclusions.

We had previously seen that town life is disadvantageous to the health and life of infants. That is a commonplace and obvious fact. But after the present chapter we must now add that in towns where women are largely employed in factories away from home the disadvantages are enormously increased. Broadly that is the inevitable conclusion. There are reservations and differences, but the fact remains. And the operations of this fact are threefold. First, there are the ordinary injuries and diseases to which women and girls in factories are liable; secondly, there is the strain and stress of long hours and hard work to the pregnant woman; and thirdly there is the absence from home of the mother of the infant. It cannot be doubted that these are the factors in the relation between factory occupation of women and a high infant mortality.

The direct injuries to women and girls employed in factories and workshops are (a) accidents from machinery, material, and other external agents; (b) injury or poisoning from toxic substances, or injury from excessive dust, fumes, vapour, or extremes of temperature, such as anthrax in horsehair factories, tetanus in jute works, lung diseases in dusty trades, and abortion in lead works; (c) injury through fatigue and strain, long hours, insufficient periods of rest for food, as in some clothing and dress factories, or the carrying of heavy weights, as in brick-making, &c.; (d) injury derived from defective sanitary conditions, such as ill-ventilation, dampness, or an insufficiency or unsuitability of sanitary conveniences; and (e) too short a period of rest at the time of child-birth. (Pages 131-132)

Over and over again, in the official reports of factory inspectors or medical officers of health, does one meet with evidences of these injuries. Where the conditions

resulting in these evils, coupled with the absence of the mother from home are present, the infant mortality is high; where they are not present, it is usually low. (Page 131.)

In a general way it may be said that it is the employment of women from girlhood all through married life and through the period of child-bearing, the continual stress and strain of the work and hours, and general conditions prevailing in women's labor, that is exerting its baneful influence on the individual and on the home. (Page 136.)

2. Effect of Women's Night Work on Future Generations.

It is a matter of common knowledge universally accepted that when the health of women has been impaired by injurious labor not only is the working efficiency of the community impaired, but a predisposition to various weaknesses is handed down to succeeding generations. The overwork of future mothers thus directly menaces the welfare of the State.

British Ministry of Munitions. Health of Munition Workers' Committee. Memorandum No. 4. Employment of Women. London, 1916. (*Signed on Behalf of the Committee by* Sir George Newman, M.D., *Chairman.*)

The engagement of women in the manufacture of munitions presents many features of outstanding interest. Probably the most striking is the universal character of their response to the country's call for their help; but of equal social and industrial significance is the extension of the employment of married women, the extension of the employment of young girls, and the revival of the employment of women at night. . . . The fact that women and girls of all types and ages have pressed and are pressing into industry shows a spirit of patriotism which is as finely maintained as it was quickly shown. Conditions of work are accepted without question and without complaint which, immediately detrimental to output, would, if continued, be ultimately disastrous to health. It is for the nation to safeguard the devotion of its workers by its foresight and watchfulness lest irreparable harm be done to body and mind both in this generation and the next.

Effect on Future Generations.—Great Britain.

More than ever in the past should consideration now be given to the well-being of young girls fresh from school, of the prospective mother, and of the mother whose care is especially claimed by her infant during the first months of its life; for more than ever is their welfare of importance to the State, and much more than ordinarily is it threatened by conditions of employment. (Page 3.)

There is need for the work of women in industry; there is need also for safeguarding that service. Happily there is manifest a public spirit and a devotion able to overcome difficulties and solve problems. There is also a fuller recognition of the claims of women and of their children and of their vital importance to the State, which is reward for the sacrifice and courage of those women now working steadfastly in the ranks of labour. (Page 10.)

Women in Modern Industry. B. L. Hutchins. *London, Bell, 1915.*

Year by year, and week by week, the capitalist system is allowed to use up the lives of our women and girls, taking toll of their health and strength, of their nerves and energy, of their capacity, their future, and the future of their children after them. And all this, not for any purpose; not as it is with the soldier, who dies that something greater than himself may live; for no purpose whatever, except perhaps saving the trouble of thought. So far as wealth is the object of work, it is practically certain that the national wealth, or indeed the output of war material, would be much greater if it were produced under more humane and more reasonable conditions, with a scientific disposition of hours of work and the use of appropriate means for keeping up the workers' health and strength. (Page XVI.)

Effect on Future Generations.—United States.

Report on Health Insurance by the New Jersey Commission on Old Age, Insurance and Pensions. November, 1917.

Our citizens are confronted with an urgent call for the employment of their energies upon the field of battle and in the supporting industries. We are told that the work of at least five persons in the industries is needed to sustain one man in the trenches. Many thousands, unaccustomed to peculiar occupational dangers, are entering industry for the first time. Women, with their greater susceptibility to sickness and with maternity functions to be considered, are now called into industry in rapidly increasing numbers. Increased use of unfamiliar trade poisons, and the rapid expansion of industries, are augmenting health hazards. The stress of industry in war is making increasing demands upon physical endurance. In our hour of necessity we have been shocked by the high percentage of draft rejections on account of physical disability. As never before we need now to conserve, for present and future generations, the health and physical vigor of our people. (Pages 1-2.)

The Serious Import of Extensive Sickness.—The draft, with its alarming percentage of rejections because of physical deficiency, has aroused the country and driven home the fact that widely prevadent sickness is of national concern. An Official Bulletin recently issued by the government states that out of approximately 1,300,000 volunteers for the Army and Navy since war was declared, but 448,859 were physically qualified, the rejection rate being 66 per cent. Mr. E. E. Rittenhouse, of the Equitable Life Assurance Society, estimates that if from the draft army also "the total rejections do not go above 50 per cent, we will be fortunate." * (Page 6.)

Sickness and Industry.—Although sickness is a problem for the community as a whole, it has an important industrial aspect. There appears to be direct correlation between sickness and industrial conditions, as well as between sickness and wages. (Page 7.)

* E. E. Rittenhouse. National Vitality—War's Effect on its Trend.

Effect on Future Generations.—Great Britain.

British Sessional Papers. Vol. XXXVII. 1893. Report of the Royal Commission on Labour. Report on the Employment of Women. Misses Orme, Collet, *etc.*

Again if we look at the children of women who have worked under the conditions mentioned, the evil effects are, if anything, more pronounced. Mothers with children from 1 to 10 or 12 years of age frequently come to us wondering why their children are so delicate. Neither of the parents nor any of their forebears are or were delicate and they cannot see why their children should be. But on inquiry it is found that the mothers worked either in shops, mills, or warehouses under conditions not suitable to sound health, and debility, slight and unnoticed, takes hold of the constitution and it is only after some years of married life that the mischief shows itself in mother and children, and as an unhealthy tree cannot bring forth healthy fruit, no more can unhealthy mothers bring forth healthy children. . . . Lung troubles are frequently seen. The main complaints that have come before me are anæmia, muscular weakness, nervous prostration and uterine, stomach, and intestinal troubles. These complaints, which are very common and most damaging to the system, are interdependent and traceable to the few causes before mentioned. (Page 318.)

The Case for the Factory Acts. Edited by Mrs. Sidney Webb. *London, Richards, 1901.*

It may be enough for the individual employer if his workpeople remain alive during the period for which he hires them. But for the continued efficiency of the nation's industry, it is indispensable that its citizens should not merely continue to exist for a few months or years, but should be well brought up as children, and maintained for their full normal life unimpaired in health, strength, and character. The human beings of a community form as truly a portion of its working capital as its land, its

machinery, or its cattle. If the employers in a particular trade are able to take such advantage of the necessities of their workpeople as to hire them for wages actually insufficient to provide enough food, clothing, and shelter to maintain them and their children in health; if they are able to work them for hours so long as to deprive them of adequate rest and recreation; or if they subject them to conditions so dangerous or insanitary as positively to shorten their lives, that trade is clearly using up and destroying a part of the nation's working capital. (Pages 20-21.)

. . . Industries yielding only a bare minimum of momentary subsistence are therefore not really self-supporting. In deteriorating the physique, intelligence, and character of their operatives, they are drawing on the capital stock of the nation. And even if the using up is not actually so rapid as to prevent the "sweated" workers from producing a new generation to replace them, the trade is none the less parasitic. In persistently deteriorating the stock it employs, it is subtly draining away the vital energy of the community. It is taking from these workers, week by week, more than its wage can restore to them. A whole community might conceivably thus become parasitic on itself, or, rather, upon its future. (Page 22.)

British Sessional Papers. Vol. XXXII. 1904. Report of the Inter-Departmental Committee on Physical Deterioration. Vol. I. Report of the Committee.

251. A very general agreement was expressed that the factory employment of mothers had a bad effect on the offspring, both direct and indirect.

253. The three ladies quoted by Miss Anderson (Principal Lady Inspector of Factories) were unanimous as to the stress and strain involved in the "employment of women from girlhood, all through married life, and through child-bearing." (Vol. I. Page 47.)

Effect on Future Generations.—Great Britain.

Ibid. Vol. I. Appendix V. Memorandum on Employment of Mothers in Factories and Workshops. Miss A. M. Anderson, *H. M. Principal Lady Inspector of Factories.*

30. As to the general effect of these conditions on the health of the women and their children, Miss Squire for Lancashire, and Miss Paterson for Dundee report similarly:

"That it is the employment of women from childhood, all through married life, and through child-bearing, that impresses itself upon the mind . . . that it is useless for medical men and others not familiar with the conditions of mill life there to pronounce any opinion on the effect of factory work upon the mother and infant; they have no conception of the stress and strain and of the general conditions of life and work in these mills." (Vol. I. Page 124.)

Women's Work and Wages. Edward Cadbury, M. Cecile Matheson, *and* George Shann. *London, Unwin, 1906.*

The employer is responsible for the hours passed inside his place of business, and if the conditions are such that the average worker is checked in development, or is actually deteriorating, the employer is running into debt to the country.

If he uses up human capital instead of the interest in energy, etc., which can be repaired daily by an average constitution, his business is aided either by the worker's relatives or by the rates which must provide for those who are prematurely disabled. Women especially fall off in capacity in consequence of early overstrain, and this has a disastrous effect on their offspring; while many in middle life drag on a miserable existence on the diminished wages they are able to earn. In so much as this is due to work and not to home life, our labor conditions need reform, and employers and the consuming public must be held jointly responsible. (Pages 198-199.)

Effect on Future Generations.—Germany.

Verhandlungen des Deutschen Reichstags. 103. Sitzung, 18 April, 1891. [*Proceedings of the German Reichstag. 103rd Session, April 18th, 1891.*]

Representative Bebel:

The vast change in social and family life which is portended by the increasing pressure of women into industry has been strongly emphasized . . . there can be no doubt that the physique of the woman is not adapted to the same degree of muscular exertion and development as the man's. That the sound and healthy development of the race depends in large measure upon the strength and health of the mother is acknowledged, and no one can deny that the health of women today is seriously endangered by factory work. The one fact alone, that the military recruiting offices all over Germany have found that from decade to decade the number of physically fit recruits in factory and manufacturing districts is diminishing to an appalling extent, so that it is necessary to draw more and more heavily upon the country regions—shows clear and plainly what kind of process is at work upon the development of the national physique, and the more extensive our industry becomes, and the more it invades the country regions, the more and more certainly will it exhaust those sources of strength which are now the only sources to look to for military defence.

For these reasons it is absolutely essential that the laws should promptly provide ample means for overcoming this tendency to deterioration of race in every way. (Page 2420.)

Die Sociale Reform als Gebot des Wirthschaftlichen Fortschrittes. [*Social Reform as a Condition of Economic Progress.*] Dr. Heinrich Herkner. *Leipzig, Duncker, 1891.*

The results of excessive work, insufficient wages and deficient nutrition appear with a distinctness that cannot

be ignored in the reports of the recruiting statistics. A military examining physician of the empire (German) reported from a factory region:

"In the factory villages, where every one works from youth up in the factories, almost all recruits were unfit for service, and I believe that, if this goes on, it will be useless to send recruiting commissions to these communities." (Page 4.) (Quoted from Archiv. für Offentliche Gesundheitspflege in Elsass-Lothringen VII, 107.)

Hours and Wages in Relation to Production. Lujo Brentano. *Translated by* Mrs. William Arnold. *London, Sonnenschein, 1894.*

It was said . . . that machinery had made labor easy which had been arduous; that it even rendered possible the employment of little children where formerly grown-up people had been indispensable; and that as the work was no longer arduous, a prolongation of working days could do no harm. The actual consequence of this easier but longer labor was a complete deterioration of the working classes, physically, mentally and morally—especially of the women and children whose labor replaced that of male adults. "And so it came to pass," to use the words of the first Sir Robert Peel, "that that great achievement of British ingenuity, by means of which factory machinery attained to such perfection, became, instead of a blessing to the nation, its bitterest curse." (Pages 21-22.)

Handbuch der Hygiene. Bd. 8[1]. *Edited by* Dr. Th. Weyl. *Hygienische Fürsorge für Arbeiterinnen und deren Kinder.* [*Hygienic Care of Working Women and their Children.*] Dr. Agnes Bluhm, *Berlin. Jena, 1894.*

Two leading reasons exist for the newly developing codes of protective laws relating to women in industry. She requires special care because:

Effect on Future Generations.—Germany.

1. She is physically not as strong as man.
2. She is the bearer of the future race whose health and vigor will be markedly influenced by hers, and the State must therefore feel the keenest interest in securing a vigorous and efficient posterity. (Page 83.)

Amtliche Mittheilungen aus den Jahres-Berichten der Gewerbe Aufsichtsbeamten, 1897. [*Official Information from the Reports of the* (*German*) *Factory Inspectors.*] *Berlin, Bruer, 1898.*

It is repeatedly shown in the reports that in certain branches of industry in specific regions the working classes deteriorate in health from one generation to another, as they become hereditarily more predisposed to fall victims to the special injuries induced by their calling. Certain work is regarded as an inherited occupation, even though its unwholesome effect is known and though the bad health of whole families engaged therein becomes ever more clearly evident. (Page 208.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*The Nightwork of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Interdiction du travail de nuit des femmes en Allemagne.* Dr. Max Hirsch. *Jena, Fischer, 1903.*

The influence of improper factory labor . . . on future generations is exerted both before and after child birth. Great importance is attached to the general effect of labor on the sexual organs, even on the general health of the female worker, and that at a very early period. A woman with an enfeebled and emaciated body, . . . is, according to experience, less capable, or even abso-

lutely incapable of producing healthy and robust offspring. The ailments of both a special and a general sort, due to unsuitable work, weigh heavily and in advance of birth, in many cases, on the descendants. Aside from the fact that female factory workers are frequently deprived of children, as a result of complete sterility or frequent abortions or still births, the surviving infants suffer much of the time from feebleness and sicknesses of all kinds, so that they bear with them from the cradle the causes of premature death, to which must be added the effective evils and dangers of a durable character which are manifested during the period of lactation and up to the last period of infant life. (Page 26.)

But if such are the effects of normal work by women during the day, they are very much worse in the case of the prolongation of the hours of work, above all when the work continues late in the evening and into the night. Not only that the fatigue and exhaustion of the mother increases in a progressive ratio with each additional hour, but also that she is kept from exercising her motherhood precisely at the time when her care is most indispensable to her little ones. (Pages 27-28.)

Reichsamt des Innern. Die Arbeitszeit der Fabrikarbeiterinnen. Nach Berichten der Gewerbeaufsichtsbeamten. [Imperial Home Office. The Working Hours of Women in Factories. From the Reports of the German Factory Inspectors.] Berlin, 1905.

The reports from Marseburg, Erfurt, Breslau, Hanover, Würtemberg, and Offenbach dwell upon the dependence of future generations—their total efficiency and value—upon the protection of working women and girls. (Page 111.)

The report for Würtemberg says in regard to the injurious effect of factory work:

"The children of such mothers—according to the unanimous testimony of nurses, physicians, and others

who were interrogated on this important subject—are mostly pale and weakly; when these in turn, as usually happens, must enter upon factory work immediately upon leaving school, to contribute to the support of the family, it is impossible for a sound, sturdy, enduring race to develop." (Page 113.)

Frenastenia e delinquenza in rapporto a taluni ordinamenti del lavoro. [*Imbecility and Criminality in Relation to Certain Forms of Labor.*] PROF. CRISAFULLI. *Proceedings of the 1st International Convention on Industrial Diseases, Milan, 1906.*

A great number of born deficients are the offsprings of mothers worn out by work from girlhood: work not alone precocious but also overfatiguing and unhealthful; and these mothers were tortured by toil even during the period of their pregnancy. The ailments of the pregnant woman which react painfully upon the fœtus, the hardships of childbirth, the sicknesses of infancy, etc., can easily be traced, among certain classes of workers; in the majority of cases they are recognized as direct and essential causes of imbecility; arrested or deficient mental development, at least in great measure, can also be traced to such causes. (Page 146.)

. . . On the other hand, over-fatigue often generates hereditary weakness, both physical and moral, by reason of which many unfortunates never attain their full development, and, in course of time, they commit essentially instinctive acts that, if not absolutely criminal, are certainly irrational. (Page 149.)

Report of the Ohio Inspector of Workshops and Factories, 1890.

. . . It must be remembered that these female factory employees will in all probability at some time be-

come mothers, and to be broken down in health when that important period of their life arrives, would certainly be conducive to evil results, and a condition we should strenuously endeavor to avoid. (Pages 37-38.)

Report of the United States Industrial Commission, Vol. XIX. 1901.

Factory life brings incidentally new and depressing effects, which those whose experience has been wholly agricultural do not appreciate. But the experience of States which have pushed their way from agricultural to manufacturing industries, and have found that their delay in protecting their factory employees has weakened the physical and moral strength of the new generation of working people, would seem to be an experience which the citizens of new manufacturing States should hope to avoid. (Page 788.)

Report of the Nebraska Bureau of Labor and Industrial Statistics, 1901-1902.

They (women) are unable, by reason of their physical limitations, to endure the same hours of exhaustive labor as may be endured by adult males. Certain kinds of work which may be performed by men without injury to their health would wreck the constitution and destroy the health of women, and render them incapable of bearing their share of the burdens of the family and the home. The State must be accorded the right to guard and protect women as a class against such a condition, and the law in question to that extent conserves the public health and welfare. (Page 52.)

Report of the Michigan Bureau of Labor, 1908.

It is a matter of common knowledge that the consequences to the citizenship of the state, both at the time

and in the future, are more grave if women work in the wrong trades, or too many hours or under improper conditions. First, it injures the women themselves, and our chivalry revolts at it; second, it injures the mothers of our citizens, so that infants are born to die young, or grow into men weak and sickly—which is bad for the state as well as themselves; third, it injures the homes which mothers absent at work cannot make, and ignorant, sick or exhausted mothers cannot make well—cannot make so well that the boys and girls who grow up in them will be trained to be honest and industrious and intelligent. . . . We shall begin to see that . . . for the injury to the women, the mothers, the homes, and the rising generation, there must be special laws for the conditions under which women work. (Page 337.)

Report of the Washington Bureau of Labor Statistics and Factory Inspection, 1909-1910.

The fact that many women, under existing conditions, are working continually on the verge of physical and nervous exhaustion cannot be contradicted. Their power of endurance is strained to the utmost at all times, and the element of recreation scarcely enters into their lives, for the reason that the hours not spent at their work must be devoted to an effort to regain their energy for tomorrow's toil.

Yet it is to these same women wage-earners that the state must look in large measure for the mothers of its future citizens, and it would appear, therefore, that the state has a vital interest in this phase of the situation. As a nation and as a state, we are devoting a great deal of thought and endeavor to the subject of conservation of our natural resources, and it is fair to ask if it is not worth while to give some attention to the problem of conserving and protecting the physical strength of our wage-earning womanhood. (Pages 11-12.)

Effect on Future Generations.—United States.

Welfare Legislation for Women and Minors. Rev. Edwin V. O'Hara. *Portland, Oregon, 1912.*

The welfare of society imperatively demands the protection of women and minors from all grave and widespread influences which would undermine the health or morals of the former or retard or stunt the natural development of the latter. The physical health and moral character of womanhood are the *sine qua non* of social progress. The health and morals of the race will not rise above the standards maintained by the mothers of the race. We live in an age which is demanding better conditions for the rearing of children,—an age which is seriously discussing radical and revolutionary methods to provide that children shall be "well-born". The primary condition of healthy offspring is a healthy motherhood. . . . No commonwealth can hope to be perpetuated, not to say make progress, which fails to ward off from its women and children pernicious conditions of living and labor. (Page 3.)

Preliminary Report of the New York State Factory Investigating Commission, 1912. Vol. I. Appendix IV. Women Workers in Factories in New York State.

It has been said that seven years is the average length of time a woman remains at factory work, for the mass of women workers after a term of years leave the factory to become wives and mothers. The concern of the State in its women workers is therefore two-fold. It is interested in their welfare as workers, but it is far more deeply concerned that they do not, while adding to its economic wealth, work under such conditions as to impair their health and vitality as mothers of the next generation. (Pages 272-273.)

Effect on Future Generations.—United States.

Report of the Connecticut Special Commission to Investigate Conditions of Wage-Earning Women and Minors, 1913.

The physical well-being of woman is essential if we are to have a strong and vigorous race, and when through overstrain and exhaustion woman's vitality is lowered, her fitness for motherhood may be destroyed, and her children will pay the penalty with weakened or vitiated physical vigor. Therefore as a potential mother the state has a right to protect her. (Page 18.)

Bulletin of the United States Bureau of Labor Statistics, Number 122. Women in Industry Series, No. 3. May 15, 1913. Employment of Women in Power Laundries in Wisconsin.

The woman injured in health by an excessively fatiguing machine must get through life as best she can, and, if she marries and becomes a mother, will care for her badly-born children as well as she knows how. When the laundryman buys or retains health-hazarding machinery, fails to keep his modern equipment in proper repair, neglects to properly instruct the operators, or falls so far short in matters of general sanitation as to perilously increase the fatigue involved in all occupations, he is paying a high price for his neglect. (Page 26.)

C. Bad Effect of Night Work on Morals.

1. Moral Dangers.

In many cases the physical exhaustion which results from night work is responsible for moral degeneration. Drink is sought first as a stimulus for exhausted energies. The close association of men and women at night in industrial occupations often presents moral dangers and temptations.

Principles of Labor Legislation. John R. Commons *and* John B. Andrews. *New York, Harpers, 1916.*

The investigations of the International Association for Labor Legislation, begun in 1901, showed that serious physical and moral dangers surrounded the work of women at night. It was clearly demonstrated that recovery from fatigue is obtained mainly through rest and sleep, and that sound sleep can rarely be secured in the daytime especially in the noisy and crowded homes of many working people in industrial cities. The lack of sunlight tends to produce anæmia and tuberculosis and to predispose to other ills. Night work brings increased liability to eye strain and accident. Serious moral dangers also are likely to result from the necessity of traveling the streets alone at night, and from the interference with normal home life. From an economic point of view, moreover, the investigations showed that night work was unprofitable, being inferior to day work both in quality and in quantity. Wherever it had been abolished, in the long run the efficiency both of the management and of the workers was raised. Furthermore, it was found that night work laws are a valuable aid in enforcing acts fixing the maximum period of employment. (Page 248.)

The backwardness of America in prohibiting night work forms a striking contrast to the activity of Europe,

the American states forbidding such work by women being less than ten in number.[1] (Page 249.)

In some cases, however, these laws are so worded as to prove unenforceable. In Connecticut, for example, the law simply forbids the employment of women in certain lines of work "after ten o'clock in the evening."[2] Therefore a manufacturer believed that he was observing the letter of the law by requiring women to stop work at 10 P.M., but putting them to work again from midnight till early morning.[3] It is necessary that the law to be effective specify the entire period during which work is forbidden. (Page 250.)

United States Congress. Senate Document, No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. III. The Glass Industry. 61st Congress, 2nd Session, 1910.

The moral aspect of the subject of the employment of Negro women in the furnace room is, on the whole, of much more importance than is the question of the effect of the work on health.

Practically all of the women interviewed spoke of the profanity which the men and older boys were accustomed to use in speaking to them. If the work went slowly or there was a large proportion of breakage, it served as an incentive to an outburst of profanity on the part of the men and older boys. Some few of the women seriously objected to this, but a large number seemed to regard it jocosely or as a matter of course, a few boasting that they gave the men word for word every time they were cursed. An equally common complaint was in regard to the men carrying on obscene conversations with the

[1] Connecticut, Indiana, Massachusetts, Nebraska, New York, Oregon, Pennsylvania, and South Carolina.

[2] Connecticut, Laws 1913, C. 179.

[3] See *Report of the State Factory Inspector*, 1914, p. 29.

It is reported that this practice became general in munition plants during the boom of 1915.

women while they are at work or during the meal and rest periods.

Conditions were said by all interviewed to have been much worse at night than during the day. The most objectionable actions were reported to have occurred between the first tempo (8 to 8:15 P.M.) and shortly after the dinner hour, which occurred at 10 or 11 P.M. After this time the work and the monotony were beginning to have their effects, so that the employees were too listless to take an interest in anything except their tasks. The evil conditions at this period were due, partly at least, to the fact that the employees, both men and women, were accustomed during the dinner hour to drink beer in considerable quantities, the men drinking theirs inside a nearby saloon, while the women drink outside the saloon. (Pages 179-180.)

With very few exceptions all of the employers interviewed, as also the managers, superintendents, and foremen, expressed themselves as opposed to the presence of women in a glass factory at night. The opposition was partly on physical grounds, that night work entails certain consequent effects on health which day work does not entail; but of much greater insistence was the moral objection. The furnace room and leer room, it was agreed, are not proper places for women at night. The whole atmosphere of the place is bad; coarseness of conversation is notoriously worse by night, and the presence of women, often acts as an aggravation, rarely as a deterrent. The finishing department is not necessarily affected by the tone of the blow room or leer room, but the chance of its escaping is rather small. This is the majority opinion. A few manufacturers did not take this view, but their attitude was not so much one of defense of the practice as it was one of cynical indifference to the moral aspect of the matter. (Page 387.)

Moral Dangers.—United States.

Women in the Bookbinding Trade. Mary Van Kleeck. *Russell Sage Foundation Publication. New York, 1913.*

For a girl to leave a bindery at such hours as are here indicated, and go home alone through the streets, is obviously dangerous. The fact that the law permits women of twenty-one or over to work after 9 P.M., also makes a loophole for employing younger girls until late at night. One of the girls whose record appears in these statements was employed at the age of seventeen to stitch programs for opera houses and theaters. During the theater season she worked overtime until 11 or 12 o'clock at night, a day of fourteen and a half hours. She walked home alone, past the closed business houses downtown. "Only bums are down there at that hour of the night," she said.

Another girl of the same age was employed a year and a half in a pamphlet and magazine bindery "knocking up". She frequently worked overtime Saturday night, sometimes staying until 2, 3 or 4 o'clock Sunday morning. Her home was in one of the worst sections of Fourteenth Street. She was laid off in March and had great difficulty in securing any other position. A few weeks later she disappeared and no one in her family knew where she had gone. Whether her employment at night and her walks along Fourteenth Street at 2 or 3 A.M., were the direct cause of her disappearance cannot be proved. But the danger of adding such influences to those which already surround young girls in a city like New York needs no proof. (Pages 142-143.)

Industrial Commission of Wisconsin. Denial of Petition for Extending Women's Hours in Candy Factories. Madison, 1913.

We come now to a discussion of the women workers' luncheon period. At the recent hearing of the candy manufacturers, they explained that it was necessary to

make the luncheon period of short duration. The short period, they said, keeps the girls off the street where they are exposed to annoyance from unbridled and dissolute hoodlums, who infest the neighboring community of the factories, waiting for the working girls to put in an appearance.

It is claimed in this connection that appeals to the police department for relief from these conditions have been unavailing. This, if true, is indeed a sad commentary upon Milwaukee. Is it possible that young working girls may not go to and from their work without being held up? The press of Milwaukee recently printed an account of one of these hoodlums being upheld by the judge before whom he was haled. We thought this to be merely newspaper license to make a story, yet we have to record here the statements of these business men. But can it be possible that working girls may not go out upon the street in peace at noon, to get a breath of fresh air and the sun's warmth to relieve the tension of steady work? If that be true, what will conditions be for the girls turned out upon the street tired and hungry, at 8:30 in the dark of the night? (Pages 10-11.)

Documents Parlementaires. Chambre des Députés, 10 Juin, 1890, Annexe 649. [*Documents of the French Chamber of Deputies.*] *Rapport sur le Travail des Enfants, des Filles Mineures et des Femmes dans les Établissements Industriels.* [*Report on the Industrial Work of Children, Young Girls and Women.*] DEPUTY R. WADDINGTON.

Your commission can testify from personal observation as well as by local testimony as to the deleterious effects of night work upon the working population. Certainly alcoholism is not infrequent among the miserable and sickly looking working women of the eastern provinces and one may well ask if an excessive use of stimulants is not induced by excess of fatigue and the lack of rest and sleep resultant upon night work. (Page 1083.)

Moral Dangers.—France.

Documents Parlementaires. Sénat, 22 Juin, 1891, Annexe 138. Rapport sur le Travail des Enfants, des Filles Mineures, et des Femmes dans les Établissements Industriels. [*Report on the Industrial Work of Children, Young Girls and Women.*] Senator Tolain.

The general extension of night work for women in this region (Vosges) means a reversal of all normal modes of life and is an undeniable cause of the growth of alcoholism, unhappily only too frequent in these districts. (Page 205.)

Rapports présentés à M. le Ministre du Commerce, de l'Industrie, des Postes et des Télégraphes, par les Inspecteurs du Travail. [*Reports of the French Factory Inspectors.*] *La Question de l'Interdiction du Travail de Nuit.* [*The Question of the Prohibition of Nightwork.*] *Paris, 1900.*

Even when the night worker is able to rest by day the morbid consequences, though slower to arise, do not fail to follow. Like those who are obliged to work in late evening hours she is tempted to alcoholic drinks to stimulate her nervous energy. . . . Men and women are not nocturnal animals. . . . Nature has implacable laws which cannot be broken with impunity. (Page 72.)

L'Interdiction du Travail de Nuit des Femmes dans l'Industrie Française. [*The Prohibition of Nightwork for Women in France.*] A. Chazal, *Paris, Pedone, 1902.*

M. Lagard, Factory Inspector, in the reports cited in preceding reference, says:

"In order to sustain themselves, it comes about, as in the case of evening overtime work, that resort is had to

strong drinks, because the unnatural day-time sleep is not sufficient to restore the wear entailed by continuous night work. (Page 15.)

"Such are the hygienic consequences of the night work of women; the moral and social consequences follow from these, for there is a close connection between physical health and moral health: 'Mens sana in corpore sano.' With reference to the moral state, those interested, and all investigators, are unanimous in stating that the effects of night work are pernicious. (Pages 15-16.)

"But it is on the organization of the family that the night work of women has the most fatal influence, and it is from this point of view that it constitutes a social danger; evening work compromises and often causes the loss of the morality of young women." (Pages 18-19.)

Royaume de Belgique. Bureau de Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

This is what one of the principal directors of industry at Vienne (Isère) said to me: "In a general way the condition of the female laborers is much ameliorated: previously they slept only a few hours, caring for their household during the day. They earned a little more perhaps: but they wore themselves out much more rapidly; theirs was a veritable prison life."

What has been said with respect to health might be repeated with reference to morals. . . .

A Catholic instructor, M. Faidherbe, who for many years devoted himself to the working people of Roubaix, said to me, "Before the law, the night work was the cause of grave disorders. The young women were at the mercy of their overseers." (Page 38.)

M. R. Waddington cited in the Senate a protest from two manufacturers of the North, MM. Tiberghien, brothers;

"Night work is indeed the cause, both within and without the factory, of disorders whose existence is too well known in our manufacturing cities to require emphasis.

"M. Vincent, a manufacturer of Vosges, of his own accord abolished night work of women for this reason. He said: 'The regrettable scenes in the factory have led me to stop it.'" (Pages 38-39.)

Besides being immoral, night work is also anti-social, according to MM. Tiberghien, in that it is destructive of the family; this is a complaint often formulated by others. "Moreover it favors alcoholism," said M. Waddington, "especially among men who find their firesides desolate, but also among women, both married and unmarried." (Page 39.)

In order to show the advantages, from the moral standpoint, of the prohibition of nightwork, it is only necessary, to point out, as M. Wunderly has done, the low number of illegitimate births among the industrial population of Switzerland. M. Wunderly does not hesitate to attribute this very unusual fact to the prohibition of work between 8 P. M. and 5 or 6 A. M. Thanks to this condition the family life of the working people becomes more normal, that is to say, more wholesome and more pure.

On the whole, we can affirm, with M. Campiche, that the prohibition of nightwork is more and more valued. (Pages 88-89.)

British Sessional Papers, 1915. Vol. XXIX. Report of the Chief Inspector of Factories and Workshops for the Year 1914.

The extent of emergency night work for women and girls, and the kind of provision made by employers to mitigate its bad effects for them, have seriously engaged the attention both of myself and the Senior Lady Inspectors. . . . (Page 44)

Most older women object to night work for they rarely if ever can escape home claims on them during

the day, and if married object to leaving their children at night. In many places parents simply refuse to allow their daughters to work on night shifts to avoid exposing them to risks that they prefer they should not run. The difficulty for employers and managers of arranging for supervision of work by night in addition to the day as well as the frequent shortage of workers, and the uncertainty of their attendance even where there was no shortage of supply of workers, soon led to an abandonment in many cases of use of Orders granted after application. In one factory Miss Martindale found that out of 250 women only five would consent to work at night, and on one night only two arrived to work the shift. (Page 45)

The Case of the Journeymen Bakers. Evils of Night-work and Long Hours of Work. William Augustus Guy, M.B., *Fellow of the Royal College of Physicians, Professor of Forensic Medicine, King's College. London, Renshaw, 1848.*

But we must look at night-work and overwork in another light. We must look at it, not merely as the cause of sickness and premature decay, but as an unwholesome influence, acting day by day directly upon the body and indirectly upon the mind. Bodily exhaustion is evidently unfavorable to the exercise of self-control. It produces a feverishness, a restlessness, an excited state of mind, which is very apt to lead to excessive indulgence in spirituous liquors. The mind cannot settle to anything, even to sleep, and craves excitement and exciting amusements; and thus bad habits are formed, which grow upon a man until it becomes very difficult to throw them off. (Page 12.)

Moral Dangers.—Great Britain.

British Sessional Papers. Vol. XXX. 1876. Report of the Factory and Workshops Acts Commission. Minutes of Evidence.

Robert Baker, Factory Inspector:

700. Do you think that it is prejudicial to women that they should work late at night . . . ?

Yes. In Ireland, I found that a very serious objection existed, even, as to warehouse women working late at night; they were beset on all sides when they were going home and great moral mischief arose.

701. On the other hand, might it not be said that if they worked late they had less time to get into mischief in the evening?

No; when they were going home at night they were waylaid constantly. (Page 44.)

A. Redgrave, Factory Inspector.

3747. . . . when I saw Mr. Saunders some time last year during the passing of the bill, I asked him whether he did not consider that night work was highly conducive to immorality, and he acknowledged that it was, and in extenuation of carrying it out in his mill, he said that he put his worst women there, and that he carefully kept from night work those who were liable to give way to temptation, but the older and hardened hands he allowed to work at night. I give that as an illustration that night work is so excessively productive of immorality. . . . (Page 186.)

3766. What I wish to ascertain from you is what is the overwhelming reason in favour of further restrictions . . . ?

If you take Blairgowrie as an illustration I am not inclined from Mr. Saunders' own evidence to agree that it is right to continue the power of recovering lost time, he acknowledging that with his own hands there is a great deal of immorality carried on through night work, and that I think is almost an overpowering reason why no night work should be permitted to continue. . . .

3768. If you point to the increase of immorality by reason of a particular kind of work, I think one has a

right to ask, on the other hand, whether it is not merely that it happens at that time instead of at another?

The reason is this, that there is not the same supervision at night as there is during the day. Of course during the day the whole neighborhood, not only the mill and particularly the rooms, but the whole neighborhood, the staircases, and everywhere else are as light as day, but in the mill at night every place is dark; the room itself is only partially lighted, and undoubtedly the opportunities and inducements to immorality are very much greater at night than in the day.

3769. It must be lighted for the purpose of work?

Yes, but that is very different from the light of day. I may mention with respect to Scotland that when the beetling in bleach mills was held not to be under the Factories Act Mr. Baxter, the member from Dundee, upon my representation, introduced a bill for stopping night work in those very places, and it was on the ground of the opportunities for immorality which it gave, and from the evidence which was given of the gross immorality which existed in those places because the women worked at night. (Page 187.)

Diseases of Occupation from the Legislative, Social and Medical Points of View. Thomas Oliver, M.A., M.D., F.R.C.P., *Medical Expert on the White Lead, Dangerous Trades, Pottery and Lucifer Match Committees of the British Home Office. New York, Dutton, 1908.*

The cheerless days, too, spent in a textile factory amid the din of machinery, and the monotonous character of the work, are not such as of themselves to quicken the intellect and promote the higher interests of life. Is it not rather that they tend, through the strain they cause, to encourage a craving for that form of recreation which seeks an outlet in excitement and pleasure, and, on the other hand, to dishearten men and women, who, as factory operatives, feel that they cannot rise to a higher

occupation than that of minding machinery? The despotism of some branches of modern labor is overpowering. Factory legislation has done something to minimize this. . . . To be of helpful service factory legislation must be progressive and keep pace with the industrial problems special to each succeeding age. (Page xii.)

The Condition of the Working Class in England in 1844. Friedrich Engels. *Translated by* Florence Kelley. London, *Sonnenschein, 1892.*

Their aim was to make the capital invested in the building and machinery produce the highest return by every available means, to make it work as actively as possible. Hence the manufacturers introduced the shameful system of night work. . . . It is needless to picture the effect upon . . . the health of young persons and adults, produced by permanent loss of sleep at night, which cannot be made good by any amount of sleep during the day. Irritation of the whole nervous system, with general lassitude and enfeeblement of the entire frame, were the inevitable results with the fostering of temptation to drunkenness and unbridled sexual indulgence. One manufacturer testifies that during the two years in which night work was carried on in his factory, the number of illegitimate children born was doubled, and such general demoralization prevailed that he was obliged to give up night work. (Pages 151-152.)

This irregularity, the frequent night work, the disorderly way of living consequent upon it, engender a multitude of physical and moral ills, especially early and unbridled sex license, upon which point all witnesses are unanimous. (Page 191.)

Verhandlungen des Reichstags. 9. Sitzung 19. Mai, 1890. [*Proceedings of the Reichstag. 9th Session, May 19, 1890.*]

Representative Grillenberger:

That danger to morals arises from men and women working together, I do not admit. . . . But where this danger really does exist is in night work in all such establishments (as beet sugar factories, etc.) where great heat prevails and consequent demoralization such as the government has endeavored to avoid. There are, however, workplaces where the danger is even greater. These are the industries where women are employed entirely or largely and where their overseers are entirely men. This is the direction from which danger comes, not from the mere association of workers together in their work. (Page 148.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Nightwork of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Interdiction du Travail de Nuit des Femmes en Allemagne.* Dr. Max Hirsch. *Jena, Fischer, 1903.*

In an unregulated consumption of spirituous liquors, irregular sexual relations and also in the indolent, negligent and constrained conduct of the worker during working hours, night work is obviously injurious, especially for the integrity and development of the family, that foundation of society and of the moral world, the bonds of which night work relaxes and even severs. Finally it is shown that night work places an additional obstacle, especially serious for the laboring classes, to instruction of every kind, for it is exactly and almost exclusively during the evening that laborers have the time to seek instruction.

Moral Dangers.—Germany.

There is ground for believing that the tendencies leading to immoral conditions, such as may be noticed outside of the factory are accentuated and favored by the sojourn in common at night, in the factory and at the time when the force leaves it; and, on the other hand, the special nature of night work, especially in objectionable places and also the physical and moral enervation caused by late evening work likewise favor sexual improprieties. (Pages 31-32.)

Jahresberichte der Gewerbeaufsichtsbeamten und Bergbehörden für das Jahr, 1907. Bd. I. Preussen. [*Reports of the (German) Factory and Mine Inspectors for 1907.*] *Vol. I. Prussia. Berlin, 1908.*

Wherever night shifts or excessively long hours are the rule, alcoholic stimulants are taken constantly as a means for keeping up the energies . . . . it is then doubly harmful. (Page 240.)

A definite decrease in the consumption of alcoholic drinks is to be hoped for as a result of the slowly progressing movement for shorter hours, better economic conditions, etc. . . . because the physical strain will then be lessened, nutrition better, etc. (Page 241.)

Handbuch der Arbeiterkrankungen. [*Handbook of* - gut
eases among Working People.] *Die Krank* n for
der Bäcker. [*Diseases of Bakers.*] Dr to per-
Jena, Fischer, 1908. ly hard
ist need

The trade takes them (the bakers) when they a 4.)
robust, and care-free, but they are soon made on of the
hardships. Since they generally have not the ely to the
found a home and a family which they would l examina-
chance to enjoy, many of them take refug stions here
fatigues of an abnormal and disorganized life
consolations of drink, gambling, and debauch
who hold out against this sort of life are for

trade before long by their ruined health, and have to look elsewhere for less fatiguing employment: there are hardly any old men among the bakers. (Page 11.)

Die Arbeiterfrage. [*The Problem of Labor.*] Dr. Heinrich Herkner. *Berlin, Guttentag, 1908.*

The physiological effect of alcohol is well-known. It lends—at first, at least—a pleasurable feeling of heightened warmth, increased mental and physical tension. But this is just what the worker so often needs. Here, it is a matter of working out-of-doors in severe, nipping weather, and there, of beginning work in the gray, early dawn; now the working energies must be spurred on past the normal hours of work for overtime, or there is generally nightwork to be done . . . . Factories which needed nightwork found that the only way to guard against the overwhelming increase of drunkenness among their night workers was to serve a proper meal in the middle of the night. (Pages 368-369.)

Handwörterbuch der Staatswissenschaften. Bd. I. [*Compendium of Political Science. Vol. I.*] *Edited by* Drs. J. Conrad, *Professor of Political Science in Halle;* L. Elster, *Ober Reg. Rath in Berlin;* W. H. Lexis, *Professor of Political Science in Göttingen;* and Edg. Loening, *Professor of Law in Halle.* *Arbeitszeit.* [*Hours of Work.*] Dr. H. Herkner. *Jena, Fischer, 1909.*

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by alcohol, which plays a fatal part, only sinks
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Moral Dangers.—Austria.

Die gewerbliche Nachtarbeit der Frauen in Österreich. [*The Industrial Nightwork of Women in Austria.*] *A Report to the International Association for Labor Legislation, Vienna, 1902.* ILSE VON ARLT. *Recension. Die Neue Zeit. 21.1. 1903.*

Night work for women and children is legally prohibited in factories, but so many exceptions are allowed that the law is practically worthless. . . . Among the arguments advanced for complete prohibition of night work is this: that, as it is well known that the exhaustion induced by night work leads many men to take alcoholic drinks, the danger is certainly great that women, if forced into increasing night work, may also learn to have recourse to artificial stimulation to keep up their nervous energy. (Page 800.)

Berichte über die Fabrikinspektion in der Schweiz. (*Reports of the Swiss Factory Inspectors, 1879.*)

Fridolin Schuler, Inspector of 1st District.

One hears much complaint of the drunkenness . . . immorality of the workmen, but surprisingly enough, only in those industrial regions where excessive hours of work are regularly the rule. An employer . . . whose men worked from early morning until far into the night did not seem to realize that this was the real reason for what he called the "laziness". For who can fail to perceive that a workman who is kept at crushingly hard work early and late must become tired out—must need artificial stimulants to keep him going. (Page 14.)

It seems that, in general the entire discussion of the normal workday has been confined too exclusively to the commercial standpoint and that an all-around examination of the subject on the basis of the suggestions here made is greatly to be desired. (Page 14.)

Moral Dangers.—Holland.

Hygiene in Connection with Night Work. J. E. Alberts, *Editor of the Medical Journal, Amsterdam. Geneeske Courant, Jan. 13, 1906.*

The most healthy sleep is at night, in a good bed, when everything is dark and quiet. The sleep of the baker during the day, besides being insufficient to supply the physiological needs of the man, always practically appears to be not without disturbance and much too short. . . . The well known bakers' anemia, through my personal experience, has proven to be considerably altered for the better by changing night work to day labor. . . .

As a matter of course following these conditions drunkenness prevails among the bakers. One glass after another is used, now to regain courage, then, as it was thought to regain strength, and again to overcome that feeling of weakness and discouragement and shivering which was the result of the debauchery of the night labor; great quantities were consumed so as 'not to dry up entirely,' as it was called.

Controindicazioni al lavoro notturno. [*Counter-indications of Night Work.*] Dr. Luigi Carozzi. *Proceedings of the 1st International Congress on Industrial Diseases, Milan, 1906.*

The workingman, to overcome the state of prostration which takes hold of him, resorts as is known, to two substances, popularly considered stimulants, alcohol and tobacco. The belief in their efficacy has, however, been completely disproved by more recent experiments. (Féré).

Alcoholism is no longer regarded as a cause of degeneration but rather a consequence of night work and, by many competent observers, an effect of excessive toil.

Alcohol, used at first by the workingman as a physiological necessity to stimulate energy, becomes later on a habit. (Page 74.)

Moral Dangers.—Italy.

Frenastenia e delinquenza in rapporto a taluni ordinamenti del lavoro. [*Imbecility and Criminality in Relation to Certain Forms of Labor.*] Prof. Crisafulli. *Proceedings of the First International Convention on Industrial Diseases, Milan, 1906.*

Every overfatigued worker is subject to a kind of poisoning derived not alone from the insalubrity of his place of work and surrounding conditions, but also from exhaustion.

The symptoms of this abnormal condition are always more apparent in the last hours of the working day. Muscular weariness produces cerebral weariness. In a word, it is exhaustion which is often followed by nervous overexcitability, by hypersensitiveness, melancholy, sullenness, etc., all of which urge the individual to impulsive and conscienceless acts. From this to crime is but a step. (Page 149.)

It is an established fact that overfatigued workingmen, through the actual poisoning of fatigue, become unsettled in their mental equilibrium, remaining almost paretics in mental associations and discriminations, in the inhibitory powers and in the sentiments. (Page 157.)

La fisiopatologia del lavoro notturno e la legislazione italiana. [*The Physiological Pathology of Night Work and Italian Legislation.*] Dr. Ambrogio Mori, *Assistant at the Pediatric Clinic of the Royal Institute of Advanced Work in Florence. Il Ramazzini, Oct.-Nov., 1907.*

It is this beginning of exhaustion of the night worker that makes alcohol appear a good and pleasant restorative. The previous lack of appetite "cured" by frequent drinks recurs now as a symptom of megalogastria, of liver trouble. As regards the insidious effects of alcohol we would remind our readers, without wishing to generalize and color unduly the dangers of night work, that alcoholism is a predisposing cause of criminality. (Page 624.)

Moral Dangers.—Italy.

If night work presents dangers to health, in the case of women it is also frequently dangerous to morals. It is certain that promiscuity during the late hours of the night leads to bad results. This applies to women and children. The theatre is not considered as it has its own regulations.

The moral objections to night work are often confounded with the physical objections. We reiterate, however, with Devoto that night work produces "precocious senility" and lessens the mechanical power of the worker. Cold food, hurried eating often immediately after working, and irrational hours are the basis of this organic lack of equilibrium. (Page 625.)

2. Dangers of the Streets at Night.

Night work and late overtime work subject women to dangers of the streets at night. When workers are dismissed at late night hours, the return home is fraught with physical and moral dangers.

Slavery of Prostitution. Maude E. Miner, *Secretary of the New York Probation and Protective Association. New York, Macmillan, 1916.*

Dangerous Work.

Character of employment and conditions surrounding workers result in exposing girls to great temptations. Waitresses in restaurants and cafes, chambermaids and hall maids in hotels, clerks in department stores, chorus girls, models, masseuse and manicurists, and girls doing night work in stores, offices, telephone exchanges, and factories, have had experiences in work which are partly responsible for their immoral living. (Page 67.)

In many hotels and restaurants, girls are subjected to great temptations. As chambermaids and hall maids, they are on duty at all hours of day and night, and are associated with men and women who often take it for granted that they are immoral. (Page 68.)

Night work is dangerous for women. Dangers arise from girls going back and forth to their work late at night or very early in the morning, from lack of supervision in places of employment, from relaxing of control by the home over girls doing night work, and from the weakened moral sense resulting from loss of vitality through great fatigue and overstrain. A young girl employed in a magazine establishment declared when arraigned in court that night work was responsible for all her trouble. She said, "If I hadn't worked in Pearl Street at night I'd never got in with these people. When I stayed till 11 or 12 o'clock to wrap magazines, I had

to walk to Chatham Square, and one time a man asked me to come into Chinatown to see the sights. First I knew, I was stopping there every night. No one was sure what time I got through my work, so I could tell my mother that I was kept awful late." This girl had been obliged to walk through a most dangerous part of the city to reach an elevated train to her home uptown. The brilliantly lighted resorts, the strange odors and queer sights had the same fascination for her that they have for thousands of curious sight-seers. Through glimpses of Oriental life, she was drawn into opium dens and other vicious resorts of Chinatown.

Girls employed at night as telephone operators in exchanges, hotels and apartment houses have declared it was almost impossible for a girl to "keep straight." Dangers are not removed in telephone exchanges because girls are locked in at night. They go out at an early hour in the morning; are unable to get proper rest in their noisy, crowded homes; and through physical fatigue relax their moral vigilance. After being employed at night for a few weeks or months they can leave their work and frequent vicious resorts without arousing the suspicion of parents or relatives. (Page 73.)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Nightwork of Women in Factories.

Besides the injuries to health from all night shift and the late overtime work of women, it has universally been found that such work renders women liable to unusual moral dangers and temptations. When women are dismissed in the middle of the night or at dawn, they face the possibility of insult or attack on the streets. Those, moreover, who are living away from home find it difficult to obtain respectable boarding places to which they may return after midnight. (Page 202.)

Dangers of the Streets at Night.—United States.

Report of New York State Factory Inspectors, 1887.

It is not in accord with the fitness of things that females should be required to labor through the long hours of the night, or to such a late hour that they will be likely to suffer insult or bodily harm while returning to their homes. (Page 28.)

Report of the Nebraska Bureau of Labor and Industrial Statistics, 1907-1908.

. . . 10 o'clock at night is too late an hour to keep female workers away from home. In the cities, it means that such workers will get home not earlier than 10:30 to 11, because a majority of them live far from the business centre. Temptation to "suspend the rules" is always offered in cities to tired and discouraged workers, men and women, and the latter must also face the wiles and insults of loafers and mashers when out alone late at night. Attacks on young girls returning from work late at night are not infrequent; and since this is so, the state ought to protect them to the limit of its unquestioned power. (Page 33.)

United States Congress. Senate Document, No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. III. The Glass Industry. 61st Congress, 2nd Session, 1910.

All the objections cited against women's employment at this work in the daytime hold in an intensified form for their so working at night. In addition, there may be noted the lower moral tone of the glass factory at night, and the fact that the night force quits at half-past 2 in the morning. At this hour the women must return to their homes alone. (Page 301.)

Concerning the physical effects of night work upon women, irregular sleep, irregular eating, etc., the con-

clusions are very much the same as those arrived at in discussing the night work of boys. With the women, however, it is the moral aspect of the subject that requires special emphasis. As has been pointed out before, even under the most favorable circumstances, the atmosphere of a glass factory at night tends to be of a more vulgarizing character than that of the same factory in the day. This is largely a psychological matter but it is based on the observations in many factories and is recognized as true. The more evil tendencies of the workers, of the men especially, appear most strongly at night, and it was everywhere observed that the character of the conversation and jesting is at its worst on the night shift. It is not implied, of course, that all or nearly all of the workers are of a character to be so affected, but in practically all factories there are enough such persons to influence the others and affect the whole tone of the establishment.

Besides this general objection to night work for women, there is the specific one of the woman's having to return home in the night or early morning. In the four factories noted above, the closing hours of the night shift were, in two cases, 3:15 A.M., in the third 4:30 A.M., and in the fourth 3:30 A.M. In most cases the women concerned did not live in the immediate vicinity of the place at which they worked. As they could not decently remain at the factory until daybreak, they were forced to return home at the most unpleasant part of the night, and in many cases by a dismal and dangerous route. (Pages 388-389.)

Ibid. Vol. V. Wage-Earning Women in Stores and Factories.

It is not the man of the same social plane who does the harm here. It is the man socially or industrially above the working girl who leads her into danger. . . . Another pretty young widow with a little son, was discharged from her place as waitress because she refused

to let the night manager, a man whom she feared and disliked, walk home with her at midnight. (Pages 75-76.)

Documents Parlementaires. Chambre des Députés, 10 Juin, 1890. Annexe 649. [*Documents of the French Chamber of Deputies.*] *Rapport sur le Travail des Enfants, des Filles Mineures et des Femmes dans les Établissements Industriels.* [*Report on the Industrial Work of Children, Young Girls and Women.*] DEPUTY R. WADDINGTON.

In dressmaking establishments, etc., the work is often prolonged to a late hour; sometimes it lasts all night. The women, dismissed at midnight or later, are exposed to inconveniences, often to danger, in regaining their often distant homes. (Page 1087).

L'Ouvrière au XX^e^ Siècle. [*The Working Woman in the 20th Century.*] J. BENZACAR. *Questions Pratiques de Législation Ouvrière et d'Économie Sociale, Paris, Vol. III. 1902.*

Work at night should be completely prohibited; not only does it exhaust women, but it exposes them, upon leaving the place of employment, to encounters that are dangerous both to safety and to morality. (Page 174.)

La Travail de Nuit des Femmes. [*Night Work of Women.*] GEORGES ALFASSA. *La Revue de Paris, Sept.-Oct., 1904.*

In going home late at night they (working-women) are often insulted, and told that no decent woman is abroad at such an hour. On reaching their homes they go to bed without food, and the next day their work recommences

at the usual hour. Only the most considerate employers give them some moments of grace in the morning. (Page 369.)

British Ministry of Munitions. Health of Munition Workers Committee. Interim Report. Industrial Efficiency and Fatigue. London 1917. [*Signed on Behalf of the Committee by* Sir George Newman, M. D., *Chairman.*]

The Comparative Efficiencies of Day Work and Night Work in Munition Factories.

2. Many general considerations would require examination if the whole question of night work in industries were under review, such as:

(1) The remotely injurious effects of permanent night work, effects which are not manifested until after a long latent period.

(2) The disturbance of normal home life; and

(3) The undesirability of hours which necessitate the passage of young women through the streets of large towns during the night.

The moral side of this question is of undoubted importance, but the Committee have before them no facts, either collected by their investigators or published elsewhere, which can be made the basis of useful discussion. The following remarks by Professor Loveday are, however, of interest. He reports that a certain firm had decided to discontinue a three-shift system and that "one reason is the extremely bad time kept in the night shift. In bad weather, with darkened streets, many women seize any excuse for not going down to factories at 10 P. M." (Page 26)

Dangers of the Streets at Night.—Great Britain.

British Sessional Papers. Vol. XXIX. 1876. Report of the Factory and Workshops Acts Commission. Vol. I. Appendix C.

Answers from Mr. Sub-Inspector Hoare.

All work after 9 P. M. in workshops is very objectionable, as it has to be carried on in rooms with an impure atmosphere, and too often loaded with gas. Moreover, young women and girls leaving workshops at a late hour in our large towns have to witness appalling scenes of immorality and drunkenness, and are exposed to temptations, often ending in their downfall. (Page 34.)

British Sessional Papers. Vol. XXXIV. 1893. Report of the Royal Commission on Labour. Group C. Appendix CXXIX. Summary of Evidence of Mr. C. B. Bowling *(Her Majesty's Inspector of Factories.)*

I have discussed this matter (overtime) with numbers of all classes concerned. . . . They admit the evils, and these can be spoken to by all my colleagues, and I think in all large towns by the police, who have seen some of the results of turning a number of girls out into the streets at times of the night when there are comparatively few respectable people about. (Page 725.)

Women in the Printing Trades. Edited by J. Ramsay Macdonald. *London, King, 1904.*

From this it is evident that protection is viewed favourably by many employers, on the specific ground that it prevents systematic overtime. On the whole, they are of the opinion that nightwork is harmful to women, and that after overtime the next day's work suffers. Some are doubtful whether they would employ women at night even if the law permitted it. Nightwork, they as-

sert, is unfit for women, not merely on account of the harm to health, but because of the insult and temptation to which they are exposed in going home. Whether these views would have been held so generally before the passing of the Factory Acts it is not possible to say; probably the results have justified the Act, and experience has provided moral reasons for legal limitations. (Page 82.)

Female Labour in New South Wales. Abstract of "New South Wales: Census and Industrial Returns Act of 1891." Journal of the Royal Statistical Society, Vol. LV. 1892.

Millinery is a much more attractive trade; the work is lighter, and the hours of labor (usually 9 A. M. to 6 P. M. and 1 P. M. on Saturdays) appear to be strictly observed. This last point is a serious consideration with parents, who prefer to apprentice their girls to this trade, knowing they will not be compelled to return home alone at almost any time of night. (Page 490.)

Report of the New Zealand Department of Labour, 1897.

That girls and women should be compelled by overtime work to return to their homes late at night is most undesirable, not only from the temptations and annoyances to which they are thereby subjected, but also for the home itself left too long neglected or unvisited. (Page iii.)

Jahresberichte der k. bayerischen Fabrik und Gewerbe-Inspektoren für das Jahr 1901. [*Report of the Royal Bavarian Factory Inspectors for 1901.*]

The overlong evening working hours, resulting from the exceptions permitted by the law as overtime react harmfully upon the health of the women. Beside that, young women, returning late at night to their homes are exposed to insult and danger. (Page 8.)

D. Bad Effect of Night Work on General Welfare.

1. Night Work Destroys Family Life.

Nightwork inevitably destroys the family life which is essential for the welfare of the nation. Women who work at night and try to make up sleep by day must inevitably neglect domestic duties. They are deprived of the benefits of family intercourse and of all opportunities for recreation. This must necessarily react disastrously upon the community as well as upon the individual. For the deterioration of any large portion of the population inevitably lowers the entire community, physically, mentally and morally.

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 4. Employment of Women. London, 1916. [*Signed on Behalf of the Committee by* Sir George Newman, M.D., *Chairman.*]

In some factories the majority of the women employed at night are married, and many of them express a preference for their work, because it leaves them free for domestic work during the day. In thus undertaking double duties their zeal may easily outrun their strength, and factory and home equally may suffer. (Page 9.)

Report of the Connecticut Bureau of Labor on The Conditions of Wage-Earning Women and Girls, 1916.

Many of the women who work nights are married. In fact numbers of married women apply for employment because with the chance to labor at night they can make

a very good weekly income and find time during the day to attend to their household duties. There is a grave question in the minds of the employers in Bridgeport, Waterbury, New Haven and elsewhere whether it is to the best interests of the factories themselves and the workers to grant this request of the married women. As far as the industry is concerned, the product turned out by these women compares favorably with the work of the unmarried, but as far as the social or moral side is to be considered, there is no doubt that the employment of married women at night naturally entails some neglect of the household duties during the day. This brings in a sociological problem. Where the woman has a mother or a sister, aunt or some older children who can take care of the house and keep it in order, there is not much harm done. In the case of the child, however, there is certainly an addition of a burden which ought not to be upon her shoulders. It is an unfortunate and not uncommon occurrence where women are working to find girls of 11 and 12 and older, coming back from school and practically doing a woman's work, and taking care of the younger children, of whom there is always a large number, getting ready the supper, and doing the various household duties, etc. This takes away from the physical and mental strength of the child. It would be interesting data to learn how these children stand in their school studies in comparison with others not so burdened. Again, where there is not any girl able to assume this duty and there are small children ranging from two to five in number, it is possible the husband and father does not receive his proper share of attention. Very likely the children suffer also. (Pages 131-132.)

Night Work Destroys Family Life.—United States.

The Necessity for Factory Legislation in the South. HAYES ROBBINS, *Dean, Institute of Social Economics, New York. Annals of the American Academy of Political and Social Science, Vol. XX. July, 1902.*

Where all the family work by turns in the mill, the results are shockingly demoralizing. . . . Let me quote a paragraph from a discussion of factory evils in the South, just published this month, by Rev. J. A. Baldwin, of Charlotte, N. C., a special student of these problems. Where part of the family work by day and part by night, he says:

"The mother has to get up at 4.30 in the morning to get breakfast for the day hands, so they can be at the mill at six; then the night hands come and eat about seven. She has to have dinner for the day hands strictly at twelve. The night hands get up and eat from four to five, so as to be ready to go to work for the night at six; she also gives them a lunch to be eaten at midnight. Then the day hands get out at six and have supper about seven. Besides this, there is house-cleaning, washing and ironing, sewing and often the care of little children. . . . The mills usually run sixty-six hours per week at night; that is, the operatives work twelve hours from Monday to Friday night inclusive, and on Saturday get up about two o'clock (before they have had enough sleep) to go to work at three. They then work until nine, at night. As a matter of fact it is usually ten or eleven when they get out.

"Night work is much worse in summer than in winter. In the winter they go to bed, cover up and sleep soundly. In summer it is difficult to sleep on account of light, heat, flies and noise. In summer, while they usually go to bed, it is a very familiar sight to see them lying across the bed with their work clothes on, or on a pallet in the passage or on the porch. Their sleep is fitful and unsatisfying, and they never feel bright and fresh from the beginning to the end of the week.

Night Work Destroys Family Life.—United States.

. . . Night work for women and children ought to be absolutely prohibited. It is, almost everywhere else, even in Russia. This would practically force either the employment of men only in night work, or else its abolition altogether. I would not deny that there may sometimes be good economic reasons for night work, at least in rush times, but it should be done by men if at all, never by women and children." (Page 186.)

United States Congress. Senate Document No. 645. Report on Conditions of Woman and Child Wage-Earners in the United States. Vol. I. Cotton Textile Industry. 61st Congress, 2nd Session. 1910.

Mill No. 2, North Carolina: This man and his wife both work at night. They sleep most of the day and do little housework. They eat cold victuals and the children look unkempt and uncared for. The children go to the mill at night to sleep on the floor and in boxes except when the sister, Mrs.——, comes to stay with them.

Mill No. 4, North Carolina: All of this family except the 7 year old lad work at night. Even this little boy goes to the mill and sleeps on the rolls of cotton. The father says he does not want to take the boy to the mill, and has been trying to get him to stay with one of the neighbors at night, and he has stayed with neighbors a few times. (Page 293.)

Amtliche Mittheilungen aus den Jahresberichten der mit Beaufsichtigung der Fabriken betrauten Beamten, IX. 1884. [*Reports of the German Factory Inspectors, 1884.*]

Above all else, however, the physical well-being of the worker demands the strictest possible avoidance of night work. One who works at night must rest by day, but this,

in the close quarters of working people is almost impossible, especially in summer. The worker shortens her time of rest in order to attend to family duties and her health suffers gradual injury. (Page 428.)

Handbuch der Arbeiterkrankungen. [*Handbook of Diseases among Working People.*] *Die Krankheiten der Bäcker.* [*Diseases of Bakers.*] DR. EPSTEIN. *Jena, Fischer, 1908.*

It cannot be asserted that the prohibition of nightwork brings about any lasting, or even any appreciable, rise in the price of bread. And on the other hand it is established that the results for the workman bakers are most happy.

Everyone in Norway admitted, at the time of the debates on the last law, in 1906, that since the reform the situation of the workmen had undergone considerable improvement from all points of view.

In Italy, too, it seems that the leaders of the workmen were justified in seeing in the suppression of night work something like the redemption of their class; the workmen feel it to be so, for they are bent on retaining the system of day labor for which they fought so long. . . . They have the sensation of liberty recovered; they have become like other workmen, able to join in domestic and social life. . . .

At Parma, the 250 workman bakers have been working by day for the last seven years (since June 16, 1902). At first—so we are told by the former secretary of the Federation, Ennio Astorri—the workmen had as it were the sensation of a new life, and they let themselves go in the enjoyment of it; the number of drunkards increased rapidly. But by the end of a few months they had taken on new habits: lecture courses were arranged for them; a number of them married; and the number of drunkards fell far below what it had been at the time of nightwork. The official inquiry of 1906 ascertained also that the num-

ber of illiterates diminished rapidly, because the workmen were able to attend evening schools. (Pages 256-257.)

The same thing happened in Turin where the system of day work has been in effect among more than two thousand workmen for the last three or four years. The secretary of the local union, Carlo Bobba, described to us with profound and enthusiastic conviction the surprising effects of the reform. The bloody brawls, the stabbings and the debauches formerly so frequent had in large measure disappeared. . . . The number of marriages had increased, and it had been a surprising sight to see confirmed bachelors marrying now that they saw that it was possible for them to have real home life. In 1907 five workman bakers between eighteen and twenty-five years of age had carried off first prizes at the evening schools. In the same year, some one was directed by the minister to look into the results of day work at Turin. He addressed himself to the municipality and the police, and he was informed that the arrests of bakers addicted to "La mala vita"—the evil life—had diminished by sixty per cent. Again, the deputy Bertesi said to Bobba: "I should never have believed that day work would so transform a class of workmen." We ourselves had seen them often in the evenings, peaceful, in the great hall of their union, where formerly there had been continual disputes; and Dr. Abba, director of the bureau of hygiene of Turin, has confirmed our judgment as to this veritable transformation. (Pages 258-259.)

Encyclopedie d'Hygiene et de Medicine Publique. Edited by Dr. Jules Rochard. *Vol. 6. Le Travail des Enfants et des Femmes dans l'Industrie.* [*Industrial Labor of Women and Children.*] Dr. Alexander Layet. *Paris, Delahaye, 1894.*

In protective legislation for women and children the interests of the family should be prominent. . . . In this regard night work is to be condemned above all else,

not less because of its fatal consequences to the health of women, than because of grave objections upon grounds of public morality and family hygiene. It completes and assures physical overstrain in depriving the organism, already fatigued by the activities of the day, of recuperative rest; it prolongs the time spent in a vitiated atmosphere where industrial operations are continually going on, and it lowers organic resistance to disease. (Page 721.)

Rapports présentés à M. le Ministre de Commerce, de l'Industrie, des Postes et des Télégraphes, par les Inspecteurs du Travail. [*Reports of the French Factory Inspectors.*] *La Question de l'Interdiction du Travail de Nuit.* [*The Question of Prohibiting Night Work.*] *Paris, 1900.*

From the point of view of wholesome organization of family life the evening overtime endangers or destroys the morals of young girls so that this overtime is almost worse than regular night work. . . . she must practically renounce her family. (Pages 84-85.)

L'Interdiction du Travail de Nuit des Femmes dans l'Industrie Française. [*The Prohibition of Night Work for Women in French Industry.*] A. Chazal. *Paris, Pedone, 1902.*

A labor inspector deplores the physical and moral effects of overtime evening work: "The amount of work required during 12 hours is indeed for girls and women an effort which they can frequently renew, only at the price of their health. . . . From the point of view of the family, overtime work in the evening is detrimental: first, for young girls who escape thus the oversight of parents and who are exposed to the dangers of the street; secondly, to women and to mothers whose presence at home is so necessary." (Pages 99-100.)

Night Work Destroys Family Life.—France.

Le Travail de Nuit des Femmes et l'Interdiction de l'Emploi de la Céruse et du Phosphore blanc, Congrès de Cologne, 1902. [*Night Work of Women and the Prohibition of the Use of White Lead and White Phosphorus. Congress of Cologne, 1902.*] Georges Alfassa. *Revue d'Économie Politique, Paris, XVII. 1903.*

All reports are of one accord in their testimony to the difficulties and dangers which are presented by the night work of women, both from the social and from the moral standpoint. . . . The absence of the mother disorganizes the household. In the matter of morals the results are very plain to be seen. So far as the young working-women are concerned, family guidance and authority are quite out of the question, especially in the large number of cases in which night work is decided upon at the last minute. The young girls have too easy an excuse to give when they come home at very late hours; the report of M. Germain Martin, already referred to, gives many examples on this point. Even in the case of married women the régime is fatally sure to produce bad effects, as any régime would that kept the wife constantly apart from her husband. (Page 638.)

Le Travail de Nuit des Adolescents dans l'Industrie Française. [*Night Work of Young Persons in French Industries.*] *Questions Pratiques de Législation Ouvrière et d'Économie Sociale. Vol. VI. 1904.* E. Campredon.

Of all the disturbances wrought by industry in family life, none is deeper or more serious than that which is caused by the night work of children and women. Not only is there no reunion of the family life, such as we find at night-fall in the country; not only is there no peaceful evening. . . . to give courage for the next day's work, but instead of this sweet comfort of the home we find a demoralizing promiscuity, in the intimacy of

night, with fellow-workers some of whom may be the bad sheep that contaminate the flock. (Page 233.)

Le Travail de Nuit dans la Boulangerie. [*Night-work in Bakeries.*] Maurice Bouteloup. *Paris, Larose, 1909.*

"It is really shocking to one's ideas of civilization to see the labor force exploited as it is in consequence of the unlimited working-day (amounting in thousands of cases, to sixteen or eighteen hours). This unbridled exploitation is aggravated by nightwork, which tends to prolong the working time and which, in conjunction with the unhygienic situation of the ovens, is ruinous to the health of the workers, shortens their lives, is detrimental to their morals and their intellectual development, and impedes or entirely prevents family life. Nightwork is all the more to be condemned because it does not answer to any imperative need of the people, but has its origin in competition among employers." (From a resolution adopted by the International Congress of Workman Bakers held at Stuttgart, August 24 and 25, 1907.) (Page 70.)

Die Überbürdung der Arbeiterinnen und Kinder in Fabriken. [*The Overwork of Women and Children in Factories.*] *Report at the 58th Congress of German Naturalists and Physicians, Strassburg, 1886.* Dr. F. Schuler, *Swiss Factory Inspector. Deutsche Vierteljahrsschrift für öffentliche Gesundheitspflege Vol. XVIII. 1886.*

Our first claim must emphatically be the prohibition of night work for women. Quite aside from all the reasons adduced by physiologists in condemnation of night work it is the universal opinion of the workers that night work is more exhausting than day work. Employers find

it more expensive, as output is poorer in quality and less in quantity while maintenance cost is the same.

The women gain no advantage from higher pay because extra food must be bought for the night. It is useless to speak of sufficient rest by day with all the noise and commotion of life going on. Not seldom, in the evening, stimulants must be resorted to to keep up the spirits. How the whole order of family life is thrown out of gear by night work needs no emphasis. (Page 126.)

Fabrikhygiene und Fabrikgesetzgebung. [*Factory Hygiene and Legislation.*] Dr. Fridolin Schuler, *Swiss Factory Inspector. Proceedings of the Sixth International Congress of Hygiene and Demography, Vienna, 1887. Vol. I. Reports of the Hygiene Sections, No. XIV.*

. . . The workers detest nightwork, because it is more exhausting. Day sleep is less refreshing. The number of meals necessary in the family budget is increased, extra cooking must be done, and the family order and system are disjointed. Night product is inferior; accidents are more numerous; machines suffer more damage; drunkenness increases and a lower moral standard is established by night work. Switzerland does not hesitate to condemn it, and she has put a stop to it even in many industries where other countries regard it as indispensable. (Page 38.)

Zur Frage der Nachtarbeit in den Bäckereien. Mitgeteilt von der Sozialen Käuferliga der Schweiz. [*The Question of Night Work in Bakeries. Swiss Consumers' League.*] *Zeitschrift für Schweizerische Statistik, XVII. Jahrgang, 1911.*

The great majority of master bakers and their wives, both in city and country, and a still greater number of workmen, would be glad to see the government prohibit

nightwork in their trade. . . . One baker's wife said: "The children are not brought up at all except with beatings; for the father is restless, nervous, low-spirited and in need of sleep, and for every disturbance of his day's sleep wife and children must suffer. Besides, a man does poorer work and less of it when he works at night. As soon as people have adjusted themselves to it, the prohibition of night work will make for a better and bigger output, and—what is most important—it will bring about healthier living conditions, a better kind of family life, and finally the emergence of a really good and capable lot of workmen. If many of the workmen now are unsatisfactory and unsatisfied, one cannot hold it up against them, for it is simply the fault of nightwork. Those employers who have given up nightwork think themselves fortunate in being rid of it." (Pages 285-286.)

Ministero di agricoltura, industria e commercio. Ufficio del lavoro. Inchiesta sul lavoro notturno dei fornai. [*Department of Agriculture, Industry and Commerce. Bureau of Labor. An Investigation of Nightwork in Bakeries.*] *Rome, 1906.*

The state of mind prevalent among bakers tends to make them an anti-social class of beings. I shall not go into the question of criminality, mental disorders, etc.; I will merely point out that the absence of the stimulating effect of sunlight, the separation from the rest of humankind and the enforced renunciation of the benefits of social life—all these things result in a continual depression of spirits which works a complete change in the psychic life and often drives these men to suicide. (Page 19.)

All these facts and considerations go a long way towards proving that the evils which put the bakery trade in the class of exhausting and unwholesome occupations and raise the death rate and the number of illnesses to such appalling dimensions, are not evils inherently and

indissolubly bound up with the trade itself, but are the outcome of extraneous and unnecessary circumstances, and therefore can be and ought to be removed, or at least greatly reduced. (Page 19.)

The baker sleeps little as a rule, and the sleep he does get is a troubled kind of sleep, broken by noises that go on in the house and out of doors. He goes back to work in the evening without having had the rest he needed. Thus his body is often weakened, his health is broken, his spirits are dulled—and he becomes defenseless against the most dreaded diseases. His nervous weakness, too, makes him subject to violent reactions from even the slightest stimulation, since his inhibitory centres have, as it were, ceased to function.

And all this is encouraged by the fact that his manner of life makes it difficult for him to have a family. He is often driven to seek distraction and forgetfulness of his abnormal life in violent pleasures; or he turns to easier amours . . . as a substitute for the comforts of family life. (Pages 21-22.)

2. Night Work Militates Against Efforts to Promote Education and to Reduce Illiteracy.

Night work and late overtime hours prevent the workers from taking advantage of the educational opportunities offered by enlightened communities, such as evening schools, public lectures, libraries, etc.

This loss is particularly disastrous for the foreign-born.

In 1910 thirteen million Americans over 10 years of age were foreign-born. Almost three millions, or one in every four, could not speak English.

Between 1911 and 1914 the additional immigration aggregated about three millions. A large proportion of these millions are employed in industry, especially in the great manufacturing establishments, such as the iron and steel mills, munition plants, textile factories, etc.

Throughout the country there is increasing recognition that the prime necessity for the immigrant is Americanization, that is, opportunity for acquiring the ability to speak and read the English language, and to become acquainted with American institutions.

Americanization is the paramount need not alone for the immigrant but for the very existence of the Republic. Unless the millions of immigrants present and future are made an integral part of the population, understanding our institutions, sharing the standards and ideals of the democracy, the nation itself is imperilled.

Learning English is the key to citizenship. It is indispensable for the adoption of American standards of

living; for a participation in the life of the community. Ignorance of the English language is the greatest obstacle to industrial advancement. It prevents the distribution of congested immigrant populations. It increases the dangers of industrial accidents, injuries and occupational diseases, owing to the immigrants' inability to understand orders or hygienic regulations printed or orally given in industrial establishments. "English for safety" is the latest slogan of the safety campaign.

The growing recognition of the need of Americanization has resulted in a country-wide movement to provide evening schools to teach English and give special instruction on American institutions. Federal, state and city authorities are urging increased appropriations for these special facilities.

Obviously this whole program of Americanization is endangered by night work and late overtime.

New York State Department of Labor. Report of the Commissioner of Labor. Third Annual Report of the Bureau of Industries and Immigration. 1913.

General Problems.—The importance of providing for the welfare of our alien residents, for their own protection and health and for their intelligent and normal assimilation cannot be overestimated. Over 2,700,000 persons, or nearly 30 per cent. of our total population, are foreign born whites. Over 700,000 of the male residents of voting age are unnaturalized. In the last decade nearly 840,000 *new* immigrants have settled in this State. The dormant power for future good or evil of this addition to our population is enormous. Only in so far as

these prospective citizens receive protection in the early stages of assimilation will they respect our laws and form of government when later the duties, powers and obligations of citizenship are conferred upon them. To this vast internal problem of adjustment should be added the fact that in 1912 over 750,000 aliens passed through the Port of New York in going to or coming from other States. (Page 4.)

Education of the Immigrant.—The educational needs of the immigrant require special study and attention. Only through his early familiarity with the English language and a knowledge of our ideals of government can he be properly assimilated. In a survey of educational work bearing on the assimilation of adult aliens, the North American Civic League, with the co-operation of the Bureau, found that night schools where English was taught to foreigners were maintained last year in thirty-one cities and towns. The attendance at such English to Foreigners' classes for New York City was 14,334 and for the rest of the State 6,660, making a total of 25,000 for the entire State. Approximately 300,000 adult immigrants entered the State during the same period of time, so that only one in every twelve was entered in these English night classes. Nineteen cities in the State . . . with a population ranging from 10,000 to 30,000 and with a foreign born population varying from 1,000 to 7,000 are without any public night classes where immigrants can acquire the ability to speak the English language. Seventeen other cities and towns with populations varying from 2,500 to 10,000 and foreign born populations in excess of 1,000 also lack any night school facilities. . . .

In the thirty-one cities and towns throughout the State where the local school authorities maintain evening classes in English to foreigners, the average length of the session is 60 nights for the year. . . . Evening schools are generally maintained from October to March, which is the period of lightest immigration and the busiest months for general factory work. During the spring and summer, when the hours of work in cities

and towns are shortest and immigration is usually heaviest, the evening schools are generally closed. As a result, the sessions do not approximate the heaviest periods of immigration. . . .

The immigrant should receive special instruction to meet his peculiar needs and limitations. Through the study of English and civics his interest in our form of government will be developed and he will be prepared for thorough assimilation. The Bureau can aid by keeping him in constant touch with all the State's sources of information, education, enlightenment and healthy enjoyment. (Pages 68-69.)

Massachusetts House Documents. No. 2300. 1914. Report of the Commission on Immigration on the Problem of Immigration in Massachusetts.

The problem of immigration presents two fundamental considerations—the welfare of the State and the welfare of the immigrant. While that of the State is unquestionably paramount, the welfare and destiny of both are linked inseparably. Throughout its investigations and its report the attention of this commission has necessarily been focussed on the immigrant, but the nature of its investigations as well as its recommendations have been determined primarily by the interest of the State.

The State being made up of individual units, it is the moral, intellectual and physical stamina of these units that determine its character and stability. Therefore the healthful development of these units is of supreme importance to the preservation of the Commonwealth. The State must, at whatever cost, prevent the lowering of its moral, mental and physical standards,—the inevitable result of overwork, underpay, unregulated housing in overcrowded tenements. By provision and enforcement of an adequate plan of education it must dispel the ignorance which begets prejudice, makes the uninformed the victims of reckless agitation, and substi-

tutes violence for constitutional methods of securing redress. (Pages 13-14.)

Education.

Education is and must always be a most important factor in the solution of the many difficulties and misunderstandings that come with a highly complex population. . . . For the most part, only through special instruction in the evening schools can the adult immigrant be given the opportunity to learn English, to supplement his inadequate training and to prepare for naturalization.

Knowledge of English a First Requisite.

To speak English and to understand it is the vital need of the immigrant. Self-protection requires this: social safety demands it; without it assimilation is impossible; upon it depends the realization of the obligations, privileges, and rights of American citizenship. . . . To the diffusion of this knowledge the Commonwealth should address itself with promptness and energy. The arrival of from 70,000 to 100,000 newcomers each year, most of whom are unable to speak English, and consequently—if neglected or ignored—are subject to the abuses, the misdirection, the prejudices of exploiters and irresponsible agitators—cannot but strain the social fabric to the breaking point. (Page 114.)

The following table, compiled from the United States Census reports, shows the number unable to read and write in any language. These figures are based not on tests given by the census enumerations, but on the statement of the people themselves as to whether they were able to read and write. It may therefore be assumed that the census figures understate rather than overstate the numbers.

Table 15.—Number and Per Cent. of Persons in Massachusetts Fifteen Years of Age and Over Unable to Read and Write in Any Language in 1910, 1900 and 1890.

	Number of Persons Fifteen Years of Age and Over Unable to Read and Write.			Per Cent Unable to Read and Write of Total Population Fifteen Years of Age and Over.		
	1910	1900	1890	1910	1900	1890
All classes	140,844	132,501	112,877	5.7	6.5	6.9
Native white of native parentage	3,302	3,739	4,052	.4	.5	.5
Native white of foreign or mixed parentage	5,523	6,523	5,107	.9	1.3	1.6
Foreign-born white	129,064	118,527	100,723	13.0	15.1	16.9

According to these figures the per cent. of those unable to read and write has decreased among both the native and the foreign-born, but there has been an absolute increase from 132,501 unable to read and write in 1900 to 140,844 in 1910, for which the foreign-born are entirely responsible. Ignorance of English on the part of an increasingly large proportion of the foreign-born has made this whole problem of illiteracy a much more serious one, so that the fact that the number of foreign-born whites in Massachusetts unable to speak the English language increased from 24 per 1,000 population in 1890 to 27 per 1,000 in 1900, and 51 per 1,000 in 1910, is of special significance.

How many have been added to this non-English speaking group since 1910 can be estimated from the annual reports of the United States Commissioner of Immigration. Of the immigrants who arrived during the year ending June 30, 1911, and gave Massachusetts as their destination, 53,635 belonged to the non-English speaking races; during the next year the number was slightly larger,—54,964—while in the year ending June 30, 1913, 85,347 who belonged to the non-English speaking races came to Massachusetts. According to these figures, 193,946 immigrants of non-English speaking races have come to the State since 1910, when there were, according

to the census, 171,014 foreign-born white persons ten years of age and over unable to speak English. How rapidly this number of people, very few of whom knew English on their arrival, will acquire the language cannot be predicted. The investigations of the commission showed that of 1,224 immigrants from whom personal history schedules were secured, 504, or 41 per cent., had learned to speak English, while of those who had been here less than three years only 14.8 per cent. were able to do this. . . .

During the school year 1910-1911, when the report of the United States Census and the report of the Commissioner-General of Immigration showed more than 224,000 non-English speaking persons in Massachusetts, the annual per capita expenditure for their education was less than $1. With this wholly inadequate expenditure, 60,785 were enrolled in the evening schools, and the actual average attendance was 25,483. Of this pitifully inadequate enrolment about one-third were in the evening high school and industrial classes, so that, when approximately 224,000 represented the number of non-English speaking persons in Massachusetts, the total enrolment in the elementary evening classes was less than 45,000, and the average attendance about 17,000.

During the year 1912-1913, of the 85,347 additional non-English speaking immigrants who came to Massachusetts, approximately 64,456 were over fourteen years of age. During that year the increase in the evening school enrolment was only 1,454, and the utterly inadequate expenditure of the previous year was decreased. (Pages 118-121.)

Report of the Commission of Immigration of the State of New Jersey, 1914.

Of the States receiving the largest number of newly-arrived immigrants each year, New Jersey ranks fifth; those receiving larger numbers being New York, Pennsylvania, Massachusetts and Illinois. About five per cent.

of the total immigration is destined to this State, although New Jersey in point of area ranks among the smaller States. . . .

New Jersey also ranks fifth in the number of foreign-born whites at present residing in the State, New York, Pennsylvania, Massachusetts and Illinois having respectively a larger foreign-born population. Rhode Island leads the list of those States having the largest percentage of foreign-born residents, its foreign-born population being 32.8 per cent. of its total population, while New Jersey is fifth in rank with a foreign population of 26 per cent. . . . (Page 12.)

Passaic with 28,467 foreign-born whites, representing 52 per cent. of its total population, has the largest proportion of foreign-born whites of all the principal cities of the United States. Lawrence, Massachusetts, has the second largest proportion with 48.1 per cent.; Perth Amboy is third with 44.5 per cent. Throughout the entire United States there are only twelve cities in which the foreign-born whites constitute more than 40 per cent. of the total population; two of these, holding first and third place in rank are in New Jersey.* (Page 13.)

The relation of the alien to the industrial, political and social interests of the State can no longer be ignored. He has become more and more a force in our economic life and an important element in our increasing industrial activities. As soon as he arrives in the State, he becomes a producer as well as a consumer.

His labor is needed on the farm, in the factory, in construction of railroads, on public works and in mines. The majority of aliens enter the country in the prime of life and make their way with remarkable courage and self-reliance. . . .

With little or no knowledge of the English language, the alien remains unacquainted with the legal and social institutions of the State and is in constant danger of breaking laws of which he is ignorant and of being

* Federal Census of 1910.

exploited by the many individuals and agencies ready to prey upon his ignorance.

With the prospect of a large number of immigrants becoming citizens, the State should take a more active and intelligent interest in their protection and preparation for citizenship. (Pages 14-15.)

The ideal of the nation is to produce through free and universal education a fairly homogeneous people having a uniform standard of social customs and political institutions. Unfortunately aliens coming to our State, and especially those taking residence in cities, are practically compelled to settle in colonies in congested quarters, where they tend to perpetuate alien groups which speak their native language, and which are frequently uninfluenced by American customs and traditions. The process of assimilation is retarded in these groups, and they are a hindrance to the full application of democratic principles of government. As long as the conditions exist which lead to this racial segregation, it is of the utmost importance that opportunities for acquiring a knowledge of the English language be placed in the reach of all these aliens, to remove as quickly as possible the inclination for continued segregation, and at the same time to make assimilation possible through contact with American thought and public opinion. (Page 111.)

First Annual Report of the Commission of Immigration and Housing of California. January 2, 1915.

This investigation showed great neglect in California of the opportunity to acquire citizenship, and little appreciation of its true value when acquired. The blame for this situation rests not so much on the aliens as on the State, for, while a few political and fraternal clubs and certain evening schools maintain naturalization classes, most of the instruction in citizenship comes from private and doubtful sources. Certain alleged "lawyers" seem to have no other business than that of taking up

cases of enterprising aliens seeking citizenship. One Italian, himself barely literate, operated a private class for immigrants, charging a tuition fee of $25 and gave a guarantee that citizenship would be obtained. The survey proved that California continues the same careless methods of citizen making which obtain in most of the big immigrant centers in the East. (Page 12.)

New York State Department of Education. 1916. Citizenship Syllabus. Prepared by Research Department of the Committee for Immigrants in America, New York.

Introductory Note.

The Federal government sets forth in its naturalization laws two main educational requirements for citizenship; first, a knowledge of the English language, and, second, a familiarity with the fundamental principles of American government. It is largely the responsibility of evening schools for immigrants to furnish instruction in these two lines.

The need for educational work in civics, and instruction in naturalization proceedings is obvious. More than 25 per cent. (6,646,817) of all the males of voting age in the United States are foreign-born, and only 45 per cent. are naturalized; the remaining 55 per cent. (3,612,700) give us concretely the "Naturalization Problem" of our country. Most of the three million who have become citizens through the regular naturalization procedure have had little or no training for such citizenship and the other three and a half million are an unassimilated element which gives a great opportunity for the promotion of civic training.

United States Bureau of Labor Statistics. Monthly Review. Vol. II. No. 3. March, 1916.

Training of Immigrants for Citizenship.

Recent reports furnished by the Bureau of Naturalization show a very rapid development of its work for the better education of candidates for citizenship, in the principles of American life and government. The need for such work is evident. Each year approximately 100,000 certificates of citizenship are issued. Many of the candidates have only a minimum understanding of the rights and duties attaching to their new status, and, in any case, the great majority would vastly benefit by a more thorough training in these matters.

To some extent the need for such training had been met through the establishment of citizenship classes by public schools, associations, and individuals. These activities, however, covered only a small portion of the field, and, in addition, it developed that a number of them were not in good faith, being simply means for the exploitation of the immigrant.

About a year ago the Bureau of Naturalization, after consultation with various school authorities, worked out a comprehensive plan for the education of candidates for citizenship. Under this plan the bureau arranges to send to the public-school authorities of his community a statement showing the name, address, and nationality of each resident alien who has declared his intention to become a citizen or of each petitioner to be naturalized. At the same time it advises the declarant or petitioner of its action and of the public-school advantages. It then rests with the school authorities to encourage the prospective citizens to enroll in the schools and, if necessary, to establish special courses for their accommodation.

During the fiscal year 1915 the Bureau of Naturalization received approximately 350,000 applications for citizenship. This number includes both declarations of intention and petitions for naturalization, a declarant having to wait two years before petitioning for naturali-

zation. It is estimated that not less than 150,000 of the above applicants had wives, thus making a total of a half million adult alien residents coming within the province of the bureau as prospective citizens of this country.

Out of this number the bureau sent the names of approximately 122,000 to the public schools of the communities where the various applicants resided. The accompanying statement shows the distribution of this number among the States.

The public schools have shown an earnest spirit of co-operation. With the opening of the present scholastic year 50 cities and towns were co-operating. At the end of December this number had grown to 450 and by the end of January, 1916, to 566 cities and towns, representing 44 States. Hundreds of other localities have expressed their interest but have been deterred from co-operation by local conditions which render such work impracticable.

In addition to the class training indicated, the outline also suggests a laboratory method of teaching civics. This method calls for lectures by city officials upon the functions of their respective offices and for the organization of the students into mock governments, with nominations, elections, officers' meetings, etc., for the practical demonstration of governmental organization and purposes. It is also urged that graduates of the schools form alumni classes for continued association and discussion.

The primary purpose of the plan outlined above is to reach those resident aliens who are contemplating becoming citizens. In addition, however, the effort is also being made to reach all foreign-born residents, many of whom have no immediate intention of becoming citizens, but who are living in this country in various degrees of ignorance as to its institutions and political organizations. Also, it has been found that there is a demand and need for such training on the part of many native-born persons. (Pages 9-11.)

Education in Night Schools Defeated.—Germany.

Das Verbot der Nachtarbeit. [*Prohibition of Night Work.*] *Report Presented to the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft, Vol. XXV.* 1901.

But what about the development of the intellectual life, which not only increases the contentment, the value, and the efficiency of the individual workman, but also serves the upward-struggling classes (and indeed the whole people) as a priceless palladium of liberty? One need but call to mind our realistic description of the life of the night worker to be convinced that in regard to opportunities of this kind he is again at a disadvantage. For real cultivation of the mind two things are chiefly requisite—the one, incitement and guidance; the other, intellectual companionship. And how are these to be had when one's evening and night are given up to mechanical labor, and one's day to sleep, to amusement, or, as often happens, to some secondary trade? The most stimulating club meetings and other gatherings, the instructive lectures and courses, the reading of newspapers and books—all these things go on almost exclusively in the evening and in the early part of the night; the night worker is therefore cut off from them, and this alone means an irreparable loss of opportunity for a development that broadens the mind, enlivens the spirit, and often makes for practical advancement also. (Page 1268.)

II. ECONOMIC ASPECTS OF PROHIBITION OF NIGHT WORK.

1. General Benefit to Commercial Prosperity.

The experience of those countries which have longest prohibited employment of women at night, shows that commercial prosperity is not hampered by such regulation. According to the testimony of observers, the increased efficiency of the workers, due to regular rest at night, has reacted so favorably upon output that commercial prosperity has profited instead of being injured by the prohibition of women's night work.

The apprehensions of danger to industry repeatedly expressed by employers before the nightwork prohibition went into effect proved to be groundless. The opposition which accompanied the introduction of the law in various countries has yielded to the proofs of its beneficial action.

Bulletin of the United States Bureau of Labor Statistics, No. 118. April, 1913. Ten-Hour Maximum Working-Day for Women and Young Persons.

This development of English labor legislation has been accompanied by a steady increase of production in the United Kingdom, as shown by the following table:

	1895	1900	1905	1909
Importation in million £	357	460	487	533
Exportation in million £	226	291	330	378
	1898	**1900**	**1905**	**1908**
Production of coal: Millions of tons.....	205	225	236	262
Production of steel: Millions of tons.....	3	4	5.8	5.3

Benefit to Commercial Prosperity.—Belgium.

Not the slightest disadvantage from the point of view of production has therefore been noted in England as a result of protecting young persons in a more efficient way and by increasing the protection of children. (Pages 51-52.)

Royaume de Belgique. Office du Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] Maurice Anziaux. *Brussels, 1898.*

What are the chances that the present regulation of the night work of women will be continued? What modifications are proposed?

The first point is certain: The principle of the prohibition of night work appears to be definitely embodied in French legislation. The protests raised against this principle in the name of freedom of work will never have sufficient influence over opinion to lead the legislators to remove from the labor laws a measure of social protection of this kind and of this importance. After all, the difficulties raised by its execution were essentially temporary, so that the opposition of manufacturers, who had to reckon all at once with these difficulties, has become more and more feeble as the difficulties have disappeared.

That at least is true of the larger mills, especially of the textile industry, and in general of all the establishments where there was previously in force the regime of uninterrupted work of women with night and day shifts. (Page 69.)

It is safe to say that (in Switzerland) the enforcement of the federal law, especially in regard to women's night work, is uncommonly strict and severe. The chief credit for this state of things is no doubt to be ascribed to the energy of the factory inspectors.

There is no need of talking long with a Swiss manufacturer to discover in him an advocate of the regulation of labor, an advocate who makes his own reservations

on certain points, on certain projects for its extension, but who none the less affirms his sympathy with the work of the legislator viewed as a whole.

I have heard it said many times that such was not always the attitude of the directors of industry of this country, but that, after having fought in the beginning against the law of 1877, they became more and more reconciled to it as time passed.

However I have not found among them a single one who expressed the desire to return to absolute liberty in the matter of the night work of women. (Pages 81-82.)

I wish to bring out the essential fact that the different manufacturers to whose opinions I have referred are really representative of their class in Switzerland.

They were not selected arbitrarily, but were designated for me by M. Alfred Frey, secretary of the Swiss commercial and industrial association, and they were chosen by him from among men who either reflect average opinion or are themselves leading employers. (Pages 81-83.)

In short, night work for women in factories is no longer a thing to be thought of. The legal prohibition, the vigilance of the inspectors, the real interests of industry, the opposition of the workmen—all these are so many social, economic and political forces working together to put an end forever to the practice. (Pages 84-85.)

After what has been said it is evident that the law of 1877—and especially article 15 of that law—prohibiting nightwork—having obtained unanimous approval, can have exerted only a beneficial influence and that it did not bring about any disturbance in the development of Swiss industries. (Page 85.)

"Speaking of industries in general," the (British) inspectors said to me, "we no longer have need to consider this matter (*i. e.*, the general enforcement of the prohibition). The prohibition is accepted by everybody; no one wishes to return to the former condition of affairs; most of our present manufacturers have never known night work." (Page 120.)

Benefit to Commercial Prosperity.—Belgium.

Not only did the period of transition (following the enactment of the law prohibiting night work of women) pass without serious disturbance, but on every hand there is reason to be gratified with the more remote results, the permanent results, the state of things in a word to which English industry has arrived after fifty years of the regime of regulation.

"English industry has become perfectly accommodated and adapted to the regulation; even if there were inconveniences," said Mr. Joshua Dodgson the inspector at Sheffield to me, "we could not take them into account, because the prohibition is decidedly too firmly established in our customs." (Page 134.)

On the whole English industry—the textile industry especially—has borne perfectly the prohibition of the employment of women at night.

This experience may be considered as extremely conclusive, inasmuch as this industry has passed through many different phases since it was placed under the regime of regulation: Since then it has had periods of expansion and of depression, of sudden crises and of chronic crises, of quick and temporary recoveries, as also of progressive and enduring advances. During all these different phases of its existence, it has never suffered any special harm; quite the contrary. Regulation has not hindered its progress; nor, on the other hand, has regulation had the effect of aggravating the losses, which it had in common with the industry of other countries, during periods of stagnation and recoil.

"And on the other hand," as Mr. Beaumont, superintendent of inspectors at Leeds remarked, "it is indisputable that there has been during fifty years a great improvement in the physique of the laboring classes." (Pages 135-136.)

It can be affirmed without any hesitation that the provisions of section 96 of the Austrian law of 1885 (prohibiting night work) have not resulted in the ruin of any industrial establishments in Austria to which they have been effectively applied.

The opinions which I have received from the most different people leave no doubt on this point. The region of Brunn especially, where night work of women had previously been most extensive, has not suffered at all. The best proof that, in general, industry has accommodated itself very well to the new regime, is—as the secretaries of the chambers of commerce of Prague and of Reichenberg, MM. Cuhel and Corus, have said—no one makes any complaint. Truly this is a criterion to set all doubt at rest.

A great manufacturer of Grottau (Reichenberg), a man both moderate and full of experience, seemed to me very near the truth when he said that, without doubt, the prohibition of night work brought about a certain loss, but that this loss was in fact not sufficiently great to counterbalance the moral gains, the humanitarian importance of such a law. (Pages 167-168.)

The manufacturers of Reichenberg, of Brunn and of Prague were unanimous in admitting that the measure which now concerns us was not ruinous. In his own words the President of the Chamber of Commerce of Reichenberg said: "It cost a little." The proprietor of a large factory at Prague said:

"It is a matter of little importance. Moreover," he added, "the opinion of Austrian manufacturers has changed; we now comprehend that the worker also is human." An inspector at Brunn said: "It would perhaps be an exaggeration to represent those interested as entirely delighted with the prohibition, but they do not dream of demanding its repeal. If there is any movement at Brunn, it is in favor of the complete suppression of night work even for adult men." (Pages 168-169.)

We know that Austria and Hungary form a single domain so far as tariff duties are concerned. But while the night work of women is prohibited in Austria it is fully authorized in the realm of Saint Stephen. To represent the true state of affars, there should be entered into the account other regulative measures in force on this side of the Leitha and unknown on that

side and it should be added that the Magyar government, in its policy of favoring the expansion of home industries, has granted to them very considerable tariff reductions.

Thus favored by liberties and by fiscal immunities, have the Hungarian manufacturers crushed their competitors of Vienna, Brunn or Reichenberg? Not in any way. (Page 172.)

In no way has the opportunity to employ women for night work induced Austrian capital to move beyond the Leitha.

One of the associates of an important Austrian establishment stated that Hungarian competition is not feared at the present time.

In a word, the liberty of night work of women has not yet resulted in stimulating the development of Hungarian industry, while industry in Austria has progressed without night work for a dozen years. (Page 174.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son Importance et sa Réglementation Légale. [*Nightwork of Women in Industry. Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes dans l'Industrie Néerlandaise.* G. J. VAN THIENEN, *Factory Inspector.* JENA, FISCHER, *1903.*

In his report for 1894 the labor inspector for Holland, M. Struwe, wrote that five years have now passed since the law went into effect. It seems to me that the time has come to examine some points regarding the enforcement of this law. We may readily admit that the first years are precisely the ones which are decisive for the enforcement of a law. This being granted, I think I may assert today that the fears which were so loudly expressed before the introduction of the law have been for the most part shown to be without foundation in practice. As a rule it is the employer who has followed the man-

dates of the law who has been most quickly reconciled to it, and it is a fact that the law put an end to many abuses. (Page 317.)

M. Struwe, inspector, said in his report for 1891:—

"I have known of no complaint being made about the prohibition of women's night work—not even mild complaints, except in the fish canning factories (herrings)."

What Mr. Struwe said in his first report about laundries is also worth citing. He agrees entirely with the other inspectors in saying that, after promulgation of the exemptions allowed to small businesses having no motor power, the objections, which had at first been incessant, were completely silenced. He says:

"When the law first went into effect, work began at 5 A. M. in different laundries, and, with a 1½ hour midday pause, stopped at 8 or 9 P. M. The day was thus 13 to 14 hours.

Later it was reduced to 12 and 13 hours in a certain number of laundries. It was supposed that this was the extreme limit.

A storm of indignation greeted the new law, (11 hrs.) An eleven-hour day, it was said, was much too short; 7 P. M. much too early for closing. Such legislation meant the ruin of the trade, etc. There were, however, some laundrymen who did not share these exaggerated fears.

Since the law took effect I have inspected about 75 establishments of this kind. At first the complaints were incessant. . . . Changing a fixed custom, introducing new ways gave great dissatisfaction. . . . At the end of the year, while some laundries continued to work late and to complain, there were others in which all complaints had ceased.

Many fears, it turned out, had been purely imaginary, and had proved hollow as soon as antiquated procedures had been broken up. It sufficed to organize the work a little differently, to lessen the numerous quarters for rest and to pool them in a total of two hours including meal time. I inspected many laundries where the women were working from 1½ to 2 hours less and men from 1 to 1½

hours less than the year before, and where the output remained almost exactly the same, the workers being the same in number, turning out as much as before and in a much shorter period.

Moreover, the laundry workers, who had been afraid that their wages would be cut under the new law, found to their satisfaction that such was not the case. Many employees and their wives became in consequence completely reconciled to the new law. I learned that in well managed, well equipped laundries all difficulties under the the law were entirely smoothed away.

A rigorous inspection is, however, necessary, to insure observance of the law, and especially with regard to the closing hour. (Pages 318-319.)

By way of summary it may be said that the experience of Holland as to the prohibition of night work of women and as to the cessation of work at 7 o'clock as a rule, during the twelve years in which the labor law has been in force, may be characterized as extremely favorable. It may be stated that it was only the herring markets that suffered from difficulties which have not yet been removed; in spite of that, however, advance is being made even there toward the diminution and eventually the suppression of the night work of women. These experiences certainly open the way for, and exert a great influence in favor of, the legal reduction of the working day in commerce and also for adult workmen." (Page 324.)

Verhandlungen des Deutschen Reichstags. 101 Sitzung, 16 April, 1891. [*Proceedings of the German Reichstag, 101st Session, April 16, 1891.*]

Representative Ulrich:

The same opposition has always been made to regulation. Examples from Swiss reports show that a primary result of the use of machinery was the extensive employment of women and children, by night as well as by day, with the same declarations from employers that ruin

would follow if this labor was curtailed, and the same final proof that output, wages, and conditions generally were improved by abolition of child labor, long hours and night work of women. (Page 2413.)

Amtliche Mitteilungen aus den Jahres-Berichten der Gewerbe-Aufsichtsbeamten, 1894. [*Official Information from the Reports of the German Factory Inspectors, 1894.*]

Baden:

One large firm held that the abolition of night work by women would cause serious injury to their business, and made determined efforts to be granted exceptional privileges. Finding this impossible under the law, they soon came to the conclusion that adaptation to the new system brought no damage to their business. They write: "the cessation of night work has had an excellent influence on the health and productivity of the working women. Extensions of the plant prevented decrease in output." In answer to a question of the inspector as to wages being less from the discontinuance of night work, they replied that wages had not fallen off in consequence. To the inspectors' question as to output they write "The productivity of the workers is greater partly because the supervision by day is better, and also because the women come fresh to their work, not having exhausted themselves by previous domestic work as was the case when they worked on night shifts." (Page 112.)

Das Schweizerische Fabrikgesetz und sein Einfluss auf den Industriellen. [*The Swiss Factory Laws and their Influence Upon Swiss Industrial Workers.*] Otto Lang. *Archiv für Soziale Gesetzgebung und Statistik. Bd. XI. 1897.*

In contrast to the German labor laws the Swiss forbids not only Sunday but also night work. Although this

was a novelty in most of the Cantons, its execution has not met with difficulties. Popular approval, which I had pointed out before the passage of the law, gave it a strong support. "Night and Sunday work" remarked Dr. Schuler in a report for 1882 and 1883, "are so detested by the majority of workers that even if in principle they had to be acquiesced in they would still always be complained of." The prohibition is absolute for women and for young persons from 14 to 16 years. (Pages 110-111.) The apprehensions that were felt as to the working of the law (as to restriction of hours—night work, etc.) have proved to be baseless. (Page 119.)

No harmful effects upon the production and competition have resulted; the reports laid before the Bundesrat three years after the passage of the law were, with slight exceptions, favorable throughout to the results of the act. . . . Since then no further attempts to weaken the law have been made. (Page 120.)

Verhandlungsbericht der zweiten Generalversammlung des Komitees der internationalen Vereinigung für gesetzlichen Arbeiterschutz. [*Proceedings of the Second Regular Meeting of the Executive Committee of the International Association for Labor Legislation.*] *Cologne, 1902.*

Professor Brants, Catholic University, Louvain, Belgium:

As to the final results of prohibition of night work for women. Switzerland (which has forbidden all night work by women in industry without any exception) tells us, that the enforcement of the law has encountered no determined opposition, that no one complains of this limitation of industrial freedom, and that it has absolutely not been found to be any hindrance to industrial progress. (Page 23.)

The reports from the different countries that are before us show that, wherever a prohibition of night work for women has been enacted it is enforced easily, taking

it in the large, and that no difficulties of any importance are encountered. (Page 25.)

The majority of the Committee were in favor of leaving the question of exemptions to a special committee who should inquire into the necessity of such exemptions and seek for methods by which a sweeping prohibition of all night work might be eventually attained. This is defined in the resolutions, in the first of which we declare ourselves for the absolute suppression of all night work for women and where we later appoint members to study ways and means of limiting to the utmost possible extent the existing exceptions. (Page 26.)

Professor Raoul Jay, University of Paris, Member of the Conseil Superieur du Travail:

"When the Assembly at Basle chose as the first object of the work of the Association the question of the prohibition of the night work of women, it was done no doubt largely because of the importance and urgency of the question. It was done also, I think, because this question appeared to the Assembly as the most easily solved of all the great questions raised at the time by the subject of the legal protection of workers. I repeat, the question of the prohibition of the night work of women appeared to us to be the most easy to solve, and why? First, because we were all in agreement as to the physical, moral and social disadvantages of the night work of women, unanimous in our desire to suppress it, and secondly because we wished to take advantage of decisive experiences in this matter, because the night work of women has already been prohibited in several countries, sometimes in a very radical manner, without in any way compromising the national industry. Is it necessary, in order to show this, to bring on reports and statistics? By no means; it is a fact which appears as clear as the light of day. For a century and especially for the past fifty years protective labor legislation has been on the increase. Most certainly the progress of the legislation has often been singularly slow, but every step made has been forward. It is evident that it could not have

been thus, that a violent reaction would have swept away the protective legislation of workers, if such legislation had in truth caused any serious damage to national industry. I have often used this very simple argument against the opponents of protective labor legislation. It is in no matter more convincing than in that which concerns the prohibition of the night work of women." (Pages 29-30.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night work of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *La Réglementation Légale du Travail des Femmes en Allemagne.* DR. FUCHS, *Factory Inspector, Baden. Jena, Fischer, 1903.*

All are agreed that the prohibition of night work by women has had a beneficial effect on the working women and their families from both the hygienic and moral viewpoints. (Page 14.)

We can in every case conclude that the prohibition of night work by women (together with the institution of a maximum eleven hour day) has not exercised an unfavorable influence either on the condition of the manufacturers or on that of the workers. The manufacturers overcame the difficulties of the first years with such great facility that the last five years of the century were noteworthy for a flourishing expansion of industry, of such sort that we no longer hear from them objections to the law, worthy of notice. For the laborers the change constituted an important moral and sanitary gain, to which there has been no corresponding material loss. The importance of such experience for the future of labor legislation, either in this country or abroad, ought not to be underestimated. (Page 18.)

Benefit to Commercial Prosperity.—France.

Ibid. *Le Travail de Nuit des Femmes en Suisse.* Dr. F. Schuler, *Factory Inspector.*

Protective measures (prohibiting women's night work) have never been changed. In 1881 an effort was made to obtain a revision of the law; it was desired above all to abolish the establishment of the normal day, even those people taking part in the movement who had proclaimed the necessity of the factory law, a few years before. But no one dared to attack the question of night work. Moreover the campaign failed. (Page 344.)

We have referred to the fact that the provisions against night work have never been attacked. Moreover, analogous laws destined to protect working women have not been seriously endangered. Even in districts where the factories resorted to night work before the factory law was passed, no one was heard complaining that the restrictions had ruined industry. In any case, no evil effect was ever experienced. But it is true that it was declared often desirable that the federal authorities should be authorized to grant exceptions for overtime to certain industries at special seasons. . . . We cannot pride ourselves upon the fact that night work has been completely suppressed in Switzerland. We cannot even say that it has been entirely suppressed in the factories. But with very rare exceptions, it consists only of an illegal prolongation of day work, extending to the early hours of the evening. (Page 349.)

Ministère du Travail et de la Prévoyance Sociale. Conseil Supérieur du Travail. [*Department of Labor and of Social Welfare. Higher Council of Labor.*] *Le Travail de Nuit dans la Boulangerie.* [*Night Work in Bakeries.*] *La Suppression du Travail de Nuit dans les Boulangeries En Italie.* Henri Rivet. *Paris, 1911.*

To be sure the application (of the law) was irksome to many bakers who were anxious to give satisfaction

to their customers as they had done before, but on the other hand it cannot be denied that happy results have already been obtained—less than three years after the passing of the law. (Page 135.)

By most of these (co-operative) societies we have heard it said: "the law took us rather by surprise, and injured us, but we still remain convinced upholders of it." We are sure that it will not be long before the employers, taking up again, like their workmen, a normal kind of family life, forget that they were opposed to the abolition of night work, seeing that this is a measure that conforms to the general interest of society.

The suppression of night work will then have produced its moral effects. (Page 138.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son Importance et sa Réglementation Légale. [*Night Work of Women in Industry. Its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *Le Travail de Nuit des Femmes dans l'Industrie Anglaise.* Geo. H. Wood, F.S.S.

The prohibition of the night work of women has had no practical effect on industry. In most of the trades night work has never been habitual and, since the middle of the last century, very little use has been made of it save in those trades for which it is still authorized. In its recent stages modern industry has developed under the influence of factory laws, and the restrictions thus imposed have aided rather than hindered its advancement. We may say even that these restrictions have had the effect of encouraging the search for better mechanical equipment and better factory organization. The reduction of the working day has increased the efficiency of workers and we can cite many cases where there has been more work done during the shorter day than during the previous longer day. (Pages 243-244.)

Benefit to Commercial Prosperity.—Great Britain.

Women in the Printing Trade. Edited by J. Ramsay Macdonald. *London, King, 1904.*

Employers admit that the effect of the Factory Acts has been to make them reduce nightwork. In criticising the act before the Commission of 1876, Mr. Bell, of the firm of Darton, Bell and Thomas, bookbinders, says:

"The Factory Act of 1876 has been a boon to employers and employed, because it has enabled us to put pressure on customers. Now we can say to the public 'We can't go beyond certain hours,' and, therefore, work not new has to be sent in earlier."

Mr. Darton, of the same firm adds:

"We have persuaded booksellers to give out stock work in June and July instead of September or October, and so begin the work earlier and avoid nightwork."

This stimulus is undoubtedly good, and these views are echoed by other employers. (Page 78.)

2. The Effect of Nightwork on Output.

The testimony of manufacturing countries tends to prove that the output of night work is inferior to that of day work. Quality and quantity both degenerate.

The profits from the uninterrupted use of plants which are operated by night as well as by day, are reduced by the increased running expenses, the wear on machinery and the lessened efficiency of the workers.

The prohibition of nightwork by preserving the health and energies of the workers, as well as the material equipments, tends to increase production.

In Great Britain, under the Health of Munition Workers Committee, studies have been published, during the year 1917, of the output of nightwork, re-established after a century of disuse; and also of the output of what is called "discontinuous nightwork", that is, the expedient of alternating weekly or fortnightly day and night shifts. The Committee emphasizes the fact that inquiries into this subject were intended to cover what is regarded as a purely temporary state of affairs, nightwork being recognized as undesirable by all "civilized nations." The Committee is "avowedly taking a short and not a long view of the subject."

Previous experience proving the inferior output of continuous nightwork is completely borne out by these investigations. Such nightwork was found to be less productive than either all day work or the system of alternating shifts.

It is, however, stated that "*in monotonous processes which call for little physical effort* . . . discontinuous nightwork of women gives an output which rarely falls more than 10% below and usually closely approximates to that obtained by day." But the value of these studies of output under alternating day and night shifts, as evidence for the expediency of the discontinuous system, is seriously impaired by the absence of corresponding data as to their effect upon health. It has long been believed injurious for workers to alternate day and nightwork each week, owing to the difficulties of so often changing regular habits of life, sleeping, eating, etc.

These physical difficulties are indeed specially pointed out in another simultaneous study of the Committee, dealing with the medical examination of a different set of nightworkers. Boys who alternated weeks of day and night work complained of increased sleeplessness and restlessness.*

If the fairness of the comparison of output under day and night shifts is impaired by the failure to study health as well as output, it is more seriously impaired by certain other factors tending to raise output in the night shift. Thus, in some cases, the Committee points out that the improvement was due to a better distribution of

* "Without discussing the reasons for and against night shifts, the fact remained that the figures, as they stand, admit of very little argument. The workers were generally tired, and I frequently found that the boys never became accustomed to the conditions of a night shift owing to the frequency of the change over; in other words where a boy at the end of a week of day work is just recovering from the effects of night shift he is back again on to night work." (Interim Report, p. 96.)

rest pauses at night than during the day. The Committee is also of the opinion that in monotonous work, output under alternating day and night shifts may be equal to that of all day work partly because "it offers a slight relief from this intense monotony." The workers "can continue to execute . . . even when half asleep." In less highly monotonous processes, the inferiority of night work is greater.

British Ministry of Munitions. Health of Munition Workers Committee. Memorandum No. 4. Employment of Women. London, 1916. (*Signed on Behalf of the Committee by* Sir George Newman, M.D., *Chairman.*)

It has been stated by some managers and foremen that the last few hours of a twelve-hour night shift yield little output. This greater influence of fatigue at night is partly due to the fact that the hours between 3 A.M. and 6 A.M., and 4 A.M. and 7 A.M. coincide with the period when, apart from industrial fatigue, vitality is low, and partly to the fact that night workers lack the stimulus of a satisfactory meal. There seems little appetite for the meal which occurs between 1 A.M. and 3 A.M., and it is often of a most unsatisfactory character. In one factory visited at night the manager stated that fatigue prevented many of the women from making the effort to go from their work to the mess room though in itself the room was attractive. In another, visited also at night, several women were lying, during the meal hour, beside their piles of heaped-up work; while others, later, were asleep beside their machines, facts which bear additional witness to the relative failure of these hours. A few women of rare physique withstand the strain sufficiently to maintain a reasonable output, but the flagging effort of the majority is not only unproductive at the

moment, it has its influence also upon subsequent output, which suffers as in a vicious circle. (Page 4.)

Memorandum No. 5. Hours of Work. London, 1916.

It has already been stated in paragraph 10 that shifts, where practicable, are preferable to overtime, but the Committee do not desire it to be thought that they regard night work as a good thing in itself, and they deem it advisable to set out some of the objections to it which have come under their notice.

(a) It is uneconomical. Though wages are paid at a higher rate, the rate of output, more particularly during the last two or three hours of the twelve-hour shift, is generally lower. The Committee feel that this objection would be largely overcome by the workers being afforded an opportunity to obtain suitable refreshment about 4 A.M.

(b) Supervision is frequently unsatisfactory. This is chiefly due to the fact that not infrequently fewer and less experienced foremen are employed at night.

(c) Conditions of lighting are seldom so good as in daytime, and make fine work more difficult. (Page 8.)

Ibid. Interim Report. Industrial Efficiency and Fatigue. London, 1917.

The Comparative Efficiencies of Day Work and Night Work in Munition Factories.

1. Civilised nations have recognized that except in case of necessity or in times of great emergency night work is undesirable; but the sudden and urgent demand for output which the present war has brought with it has necessitated much night work for all classes of operatives.

2. Many general considerations would require examination if the whole question of night work in industries were under review. . . .

Effect on Output.—Great Britain.

Although of extreme importance when night work is envisaged as a permanent feature of our civilisation, these considerations do not assume the same place when we are dealing with an admittedly temporary state of things.

3. The Committee, however, is avowedly taking a short and not a long view of the subject, and is solely concerned with the factors which are of importance during the present emergency. Thus, to take an extreme case, were it to be shown that the efficiency of night work, measured in terms of output, were but a small fraction of that of day work, it would not necessarily follow that night work should be discontinued. If the night workers produce *any* appreciable quantity of manufactured articles, their employment increases the absolute supply of munitions, and is therefore justifiable; provided always that the lower efficiency is not an indication of such damage to health as must, in the near future, involve a diminution of the already limited supply of available labour, and therefore, in the end, a diminution of gross output before the necessity for a maximal supply has passed away. Conversely, a high degree of relative efficiency in night shifts would not justify the system if it were purchased by a rapid exhaustion of the health and strength of available workers.

4. Judgment on this restricted aspect of night work must be based upon a knowledge of both the comparative output-efficiency, and of the prevalence of invalidity, sickness and bad timekeeping among night and day workers. (Pages 26-27.)

Methods of Night Work.

7. The main distinction is between what may be termed *continuous* night work, in which employes work by night and do not attend the shop at all in the daytime, and *discontinuous* night work, in which the employes pass into the night shift at regular intervals, generally every other week. Between the extremes of entirely continuous night work and regular weekly alter-

nation, all variations may exist and many have been found in practice.

Female Labour.

I.—Output.

8. *Discontinuous Employment of Women in Night Shifts.*—The first data to be considered were provided by Dr. H. M. Vernon, and this material is of rather special importance, because Dr. Vernon was able to compare the effect of different systems in the same factory. The particular data relate to girls engaged in a cartridge factory. . . .

9. Dr. Vernon's data relate to 29 women on "second draw," 39 on "head-trimming," 24 on "second cut-off" (sometimes called "edging"), and 20 on "reamering." They worked on the discontinuous system, changing weekly; the average hours worked were 51.7 by day, 55.9 by night, and the period of observation was 22 consecutive weeks from 3rd January, 1916.

Taking the mean hourly production over the whole period to be 100, Dr. Vernon found means for the four sets on day shift of 99, 101, 100, 99, and for the same workers on night shifts 101, 99, 100, 101. If each night average be divided by the corresponding day average and the result multiplied by 100 to render the figures comparable with those of Captain Greenwood—who has usually adopted such a ratio as a comparative figure—we have 102, 98, 100, 102. Multiplying each of these figures by the number of girls concerned in each, adding the results together, and dividing by the total number of girls, we reach 100.1 as the mean of the whole series, i.e., perfect equality between the mean hourly outputs. This equality is not, taken by itself, a proof that night work produces no injurious effects upon the output. Thus, were night work harmful, its effect might react upon the subsequent day work, so that the general average was lowered, although the ratio between the day and night production might be that of equality. Dr. Vernon was able to test this point by comparing the perform-

ances of girls on continuous or discontinuous day or night work in the same factory, and found that the comparison was not unfavourable to the discontinuous system with weekly changes. (p. 28)

13. Captain Greenwood has furnished the Committee with five sets of data, having reference to the discontinuous night work of women. (p. 29)

16. The third series of data, from a national factory producing cartridges, is, so far as numbers of individuals are concerned, much more extensive, but the period of observation is short, only extending from the week ending on 6th June to that ending on 11th July, 1916. In all, the outputs of 339 girls distributed over 14 operations were studied. The day and night shifts were of equal length, viz., 10 hours 10 minutes. The mean percentage ratio was found to be 98.7 $\pm$ 0.3*, or slightly less than 100%. The ratios for the separate operations varied from 104.8 $\pm$ 1.2, in the case of the "first draw" (29 girls employed), down to 94.9 $\pm$ 0.9 in the case of "mouth boring" (48 girls employed.) This variation is an interesting confirmation of a surmise of Dr. Vernon's. After noting that his results pointed to the discontinuous system with weekly changes being the best, Dr. Vernon wrote:—"It is to be remembered that cartridge making is more monotonous than almost any other type of munition work, and so the favourable influence of working alternate weeks of day and night shift may be due partly to the fact that it offers a slight relief from this intense monotony." As stated above, the drawing operations are typical instances of monotonous processes, while "mouth-boring," in which the

* The quantities to which are prefixed the sign $\pm$ allow for "Probable Errors," and measure the reliability of the averages to which they refer. Thus, if on a *priori* grounds we should expect a certain average to be, say, 100, and we actually find on trial of a limited number of measurements that the average is, say, 98 $\pm$ 2, the observed value being only less than the expected value by a quantity equal to the former's probable error cannot be said to differ significantly from the expected value. The limit conventionally chosen is three times the probable error, and averages which do not differ by as much as three times the probable error of their difference are not deemed to differ "significantly."

operator can largely work at her own pace and is not forced or stimulated to maintain a particular rate by the machine, is somewhat less monotonous. In the former case we find no inferiority, and in the latter a definite inferiority of production by night shifts, in Captain Greenwood's data. (Pages 29-30)

18. The next set of data was obtained by Captain Greenwood and Mr. S. H. Burchell from a factory turning out fuzes for 18-pounder shells and refers to 68 girls engaged on semi-automatic operations, chiefly capstan-lathe operations. The system was discontinuous, with weekly change, and the period of observation from the week ending 9th January to the week ending 26th March, 1916. The full day-shift week was 56 hours, the full night-shift week 45 hours; the actual daily working hours of a full day shift were 9½, and of a full night shift 10½. The mean night to day ratio of hourly output was 101.3 ± 0.6, i. e., in this series also there is no sensible difference between the ratio of production at night or by day. (p. 31)

20. Data have also been provided by Mr. P. Sargent Florence. Mr. Florence's chief series is derived from a cartridge factory, organized on the discontinuous system, with weekly change. . . . His observations may . . . be said to agree with those of the other observers. (p. 31)

21. Mr. Florence's next series is the outcome of a different class of work. This consisted in drilling and tapping small fuze parts on sensitive drilling machines. The processes concerned are less monotonous than the cartridge operations. The system is discontinuous with weekly change; the hours are 10½ on day and 10 on night shifts, the weekly hours 56 to 58 for day weeks, 50 for night weeks. The following comparison was instituted: The efficiencies of the operators, during seven weeks from 30th of January to 12th March, 1916, were analyzed, and all cases extracted where an operator worked more than 10 hours on a certain job during the days of one week, and more than 10 hours on the same

job in the night shift of another week. The number of girls involved was 44, and the comparative efficiency of night work, in terms of day work, was 91.6%. A similar difference was found in the case of an intensive study of the outputs of two individual workers, viz., a reduction of output to the extent of about 10% at night. In only one of the earlier series was so great a difference found. The form in which Mr. Florence's data are presented makes it impossible to determine the error of sampling to which the average is subject but assuming that the difference is statistically significant, it adds point to the remarks of Dr. Vernon cited on page 4 supra with regard to the possibility of the peculiarly monotonous nature of cartridge work having something to do with the equality of day and night outputs. In this connection some remarks of Mr. Florence are of interest. He writes:

"A personal visit to the cartridge case department at night showed that girls tend to drop straight off to sleep immediately their machine breaks down and they need no longer work. They would appear, indeed, to be continually on the verge of sleep, and yet the output is maintained at the day-shift rate. Apart from the fact that lengthy repairs to the machines are not undertaken at night, and that there is then generally less interference from the staff with the course of work, the explanation of the paradox lies mainly in the nature of the work. . . . The operatives have only to fill a slot or reservoir with the material right end up; the machine does the rest. *The girls soon learn to 'automatise' the movement required in filling, and can continue to execute them even when half asleep." (Pages 31-32)

23. This observation completes the data collected under the direction of the Committee with respect to output by women and girls under the system of discontinuous night work in munition factories. In the aggre-

* This remark refers to the operations Mr. Florence was discussing, not to all cartridge processes.

gate the investigation comprises some hundreds of employes in representative factories, and may justly be regarded as typical of the conditions obtaining to-day. The individual results vary, but their general trend is unmistakable, and the inference seems valid that *in monotonous processes which call for little physical effort, such as those concerned with cartridge making, discontinuous night work of women gives an output which rarely falls much more than 10% below and usually closely approximates to, that obtained by day.* There is a certain amount of evidence that, in the case of less highly monotonous processes, the inferiority of night output is somewhat greater, but even in that case, percentages much below 90 have not been obtained. (p. 32)

25. *Continuous Employment of Women in Night Shifts.*—The continuous employment of women in night shifts is not of common occurrence in munition factories, and the data available for analysis consist of two sets, provided respectively by Dr. Vernon and Captain Greenwood. (p. 32)

30 The Committee think that the outcome of Dr. Vernon's and Captain Greenwood's investigations make it highly probable *that continuous night work is productive of definitely less output than is the discontinuous system; and the Committee have failed to obtain evidence that the output of the continuous day shift balances this inferiority.* (P. 34)

Labour, Finance and the War. Edited by A. W. KIRKALDY, M.A. *Published by authority of the Council of the British Association. London, Pitman, 1916. Chapter III. Replacement of Men by Women in Industry During the War.*

The employment of women on night work has been found to be confined almost entirely to work in shell factories and in certain other metal trades.[1] In general

[1] Women were found on night work in some printing firms—an evasion of the Acts.

engineering, women, as a rule, work on the day shift only. In shell factories, the work is based on a two-shift system, and an attempt seems to be made, where possible, to put the women on alternate fortnights of day and night work. In other metal works, a three-shift system is sometimes in operation.

Where women are employed on the night shift, they seem usually to work the same hours as the men. Modifications (in the form of breaks on a long working spell) have been introduced, and found to conduce so much to efficiency, that they have been applied to the men also. But the general opinion, stated quite emphatically, is that women, particularly if married, do not take kindly to night work. The reason given is that the domestic work of the married woman demands her attention in the day hours when she ought to be asleep. The result is that the night work of women, particularly in the last few hours of the shift, yields less output than day work.

Outside munitions and engineering, the employment of women at night and on abnormal overtime is to be met with in occupations to which the Factory Acts do not apply. The former has been found in connection with tramways and railways, and the latter in clerical work. But here, again, the almost unanimous verdict of the employers is the same. Women do not stand night work, and the strain of overtime is too great. In tram cleaning in Glasgow, on which women are employed at night, as many women have left as have remained. On the other hand, where the Factory Acts do apply, it is frequently given as one of the chief difficulties in the way of replacing male by female labour that women are not allowed to work the same hours as men when they themselves would be quite willing to do so. It would be well if the experience of those industries in which night work has become a temporary necessity could be made widely known. The adverse effects on output, not to mention the lowering of the health of the workers, should be a sufficient safeguard against any attempt permanently to remove the Factory Act restrictions. (Pages 83-84.)

Effect on Output.—Great Britain.

British Sessional Papers. Vol. XX, 1834. Factories Inquiry Commission. Supplementary Report.

Queries addressed by the Central Board of Commissioners to Manufacturers.

Stephen Pellate, for Richards and Co. (linen):

A.36.—We disused night work in 1826, and after pursuing that system for five years, I am of the opinion there is no advantage in it to the proprietor. A.I. (Page 17.)

G. S. Wells (spinning):

A.36.—I conceive the prohibition of night work would be beneficial to the trade. C.I. (Page 17.)

Robert Crossley (woolen yard):

A.34.—I have never found night work profitable, as burning gas, also two sets of hands coming to the same machinery, do their work in different ways, that I have a great loss from it. C.I. (Page 25.)

Richard and Joseph Ingham (cotton yarn):

A.36.—We consider night work unnatural, and a thing which ought on no occasion be allowed to any manufactory; and we consider its effect on trade is to glut the market, and that evil and cruelty attend it in all ways. C.I. (Page 27.)

Marshall and Co. (flax-spinning):

A.33-36.—We have never employed a night set of hands. There is certainly a great saving to the manufacturer in the interest of capital sunk in buildings and machinery by working day and night, but we have thought that advantage overbalanced by the greater difficulty of enforcing economic management in night work than in day work, and by the liability of the former to be injurious to the health and comfort of the work-people. C.I. (Page 77.)

Hansard's Parliamentary Debates, 3rd Series. Vol. LXXVII, 1845.

Lord Ashley (on Employment of Children in Calico Print Works):

Sir, I may venture to assert that night work is neither

necessary nor advantageous to the Trade. The Report says: "No countervailing advantage is ultimately obtained from it even by the employers." Again: "In working in the night it is generally considered that more work is spoiled than in the day, and an abatement is made for bad work." Mr. Robert Hargrave of Accrington, one of the highest authorities in the kingdom, says, "I do not like the principle of night work; there is danger of fire, and a necessity for a double set of superintendents. The work is done much worse."

Mr. Kennedy, the sub-commissioner for Lancashire, Cheshire, and Derbyshire, reported—and this is a most valuable statement, to which I should desire to call the especial attention of the House,—"I have been favored," says he, "by an influential house with an inspection of those books which show rates of production in their roller printing machines, during a period of four months, when they worked 15 hours. . . . The proportion of spoiled work from the beginning of the first to the end of the fourth month, actually doubled itself, whilst the average production of the machines decreased from 100 to 90 per cent. In fact the amount of spoiled work increased to such an alarming degree, that the parties referred to felt themselves compelled to shorten the hours of labour to avoid loss, and as soon as the alteration was made, the amount of spoiled work sank to its former level. "I am informed," he adds, "that the general experience of this branch of trade is, that under whatever circumstances night work is tried, the produce is distinguished by a larger share than ordinary of spoiled work." Now just consider the whole force of this statement; observe the false economy, the actual waste, of excessive toil, and disregard of the times and seasons that nature has appointed,—a large decrease in the quantity produced; a still larger deterioration in the quality of the article—the causes of all this mischief, night work, and over-toil, are removed, and then the good and the marred produce return to their former proportions. I have also permission to read the following extracts from the letters of two most respectable and intelligent persons.

Effect on Output.—Great Britain.

Mr. John Graham, superintendent of the works at Mayfield, says, "So far as we are concerned at Mayfield, it would be advisable to give up night work for women, young persons, and children, night work being understood as those hours between 10 P.M. and 6 A.M." Mr. David Cooper, of Primrose-works, Clithero, observes, "I allude only to Messrs. Thomsons' works. There may be other printers who may be unable to adopt such regulations." He says that Mr. Thompson for many years carried on night work, but had for years been induced to give it up, partly from feelings of humanity, and partly from motives of economy, because he found it injurious to his work people, and because the amount of spoiled work was so considerable. (Page 647.)

Women in the Printing Trades. Edited by J. Ramsay Macdonald. *London, King, 1904.*

The testimony of the forewomen is to the same effect. A., a forewoman, used to work often till 10, 11 or 12 at night, sometimes all night. Sometimes she was obliged to keep her girls all night when there was work that had to be finished, but usually she gave them a rest the next day. She thinks it a very good thing that they should not be allowed to work all night; the work is piece work and long hours don't do any good, for they mean that you work less next day; if you work all night, then you are so tired that you have to take a day off; you have gained nothing. She used to find that so herself.

Another forewoman gave it as her deliberate opinion that when overtime is worked the piece workers do not make more as a rule, for they get so tired that if they stay late one night, they work less the next day.

This is the unanimous view held by the forewomen, and it comes with considerable force from them, as it is they who have to arrange to get work done somehow within a certain time. They are the people who have to put on the pressure, and are in such a position as to

see how any particular system of getting work done answers. (Pages 86-87.)

Daily Consular & Trade Reports. Bureau of Foreign & Domestic Commerce, Department of Commerce. No. 266. November 13, 1917. Washington, D. C.

Post-War Industrial Status of Women in France. [Consul J. E. Jones, Lyon, Sept. 7.]

Increase in Number of Workwomen.

The question of the employment of women was foreseen at the time of the army mobilization in 1914. This was especially so at Lyon where some of the large concerns undertook a general recruiting of women. It was an experiment, especially in the places requiring high technical skill. In order to meet the difficulties that naturally arose American machines and machine tools, which did their work automatically and needed only a directing hand, were purchased in large numbers. The munition factories took on great numbers of women, who developed rapidly into efficient operators, handling the most complicated machines as well as men could.

In spite of some restrictions women have progressively appeared in all the workshops. In the munition plants at Lyon 3 per cent of the 572 workers employed in June, 1915, were women. In 1916 31 per cent of the total of 6,081 workers were women; and this number rapidly increased until on May 19, 1917, out of a total of 12,045 workers, 6,066, or more than 50 per cent, were women.

. . .

As Substitutes for Men—Improving Working Conditions.

Scientific experiments made at one of the large munition plants in Lyon showed that in the production of shells a woman operates on 900 to 1,000 shells a day, handling each piece twice (in putting it in and taking it out of the lathe), making from 1,800 to 2,000 movements with a shell weighing 6 kilos (13 pounds). She thus moves in her day's work, a total weight of 10 to 12 tons.

Effect on Output.—United States.

This work requires great precision, yet women operatives have given general satisfaction. The manufacture and repair of tools and their mountings have proved to be quite a specialty with women workers, bringing out good professional ability and keen intelligence. Before the war this work was done only by men.

Advantages of Two-Shift System.

The division of the work between two squads of women has been tried in one of the Lyon munition plants. Squad A works from 6:15 A. M. to 2:15 P. M., with an interruption of 45 minutes for the midday meal. Squad B works from 2:30 to 9:30 P. M. with an interruption of 45 minutes for the evening meal. In order that the two shifts work the same number of hours, Squad B should remain until 10:30, but as the street-car service stops after 9:30 the women on the second shift leave at that time. However, as the shifts alternate each week no discrimination results from this shorter workday for the night shift.

This division of the workday gives satisfactory results; in fact, it shows remarkable advantages from both the industrial and the social point of view. On the industrial side the women produce more in a short workday than in an extended period, besides being less inclined to absent themselves from work; further, they do not feel the fatigue so keenly. The use of night shifts, whose production is often inferior, is avoided, and at the same time a material economy is effected in the general expenses, inspection, power, lighting, etc. These deductions are confirmed by facts, as witness the following comparison of the output of two similar industries at Lyon and Bourges: Putting up of the prime holder—Bourges, 1,200 pieces in 10 hours and 15 minutes; Lyon 1,100 to 1,150 pieces in 7 hours and 15 minutes. Marking of the rocket's body—Bourges, 1,200 pieces in 9 hours and a half; Lyon, 1,200 to 1,250 pieces in 7 hours and a quarter. Drilling the prime holder—Bourges, 3,200

pieces in 9 hours and a half; Lyon, 3,200 pieces in 7 hours and a quarter.

From the social point of view the workwoman gets important advantages from this division of the day; she is a shorter time outside her home, she can give a part of her time to household duties, and she can take care of her children if she has any. The workwomen, judging by the demand for employment, seem to appreciate this system. It is possible that this will be the way of organizing female work and a first solution of the complicated problems arising from their employment. (Pages 599-601)

Report of C. H. Crownhart, *Counsel in re Application to Industrial Commission of Wisconsin to Fix Hours of Labor for Women. Madison, Wisconsin. August 20, 1917.*

Industrial Commission of Wisconsin.
By J. D. Beck,
F. M. Wilcox,
Geo. P. Hambrecht,
Commissioners.

The commission has not completed its investigation, but so far as manufactories and laundries are concerned, it is prepared to enter its order forbidding night work. (Page 4)

Night work for women is at variance with the laws of nature, and has been very generally abolished throughout the civilized world. It is objectionable because of "lack of sunlight; lack of normal sleep; no compensation in restless interrupted sleep of day for the sleeplessness of night; the abnormality of sleeping by day; abnormal change in daily life; the destruction of home life; impossibility of properly caring for home and children; lack of restraining influences; day work besides the arduous night tasks." (Page 5)

Effect on Output.—United States.

In this day and age it needs no proof to establish the fact in the minds of the commission that night work in factories for women, is objectionable from the standpoint of the statutes forbidding employment prejudicial to the life, health, safety or welfare of such women. (Page 5)

It has been urged upon the commission that because of the abnormal industrial conditions resulting from the present war, the commission should delay its findings and orders in respect to women employes, until such time as normal conditions are restored, and the commission has given these suggestions careful consideration. The result of our consideration, however, is to firmly fix in our minds not only the desirability but the necessity for establishing the conditions of women labor, as provided by law, at the earliest possible moment, both in the interest of employers and in the interest of the women workers. We take notice of the fact that in foreign countries engaged in war, recent investigations have established the fact that owing to abnormal conditions, employers, in their patriotic endeavors to secure output, exceeded the speed limit, with resulting inefficiency and failure to secure the best results. The Wisconsin statute fortunately lays down the rule which is bound to prove for the best interests of all parties concerned in securing efficiency and output. If women workers are pressed in their work to the extent that is prejudicial to their life, health, safety, and welfare, it will be found that it is also prejudicial to output. Such has been the experience of all those who have given the matter real consideration. The war necessities as to labor are not satisfied by extending the hours of labor beyond the point of safety of health and welfare of the women workers. (Pages 5-6)

. . . We have no hesitation in finding that all night work should be abolished in factories.

Laundries.

Conditions in laundries are similar to those in factories as to standardization, machinery, speed, continuity

of work and average of women employes. In addition there is excessive heat at some work and excessive humidity at other work in laundries. The same reasons exist for prohibiting night work in laundries as in factories. (Pages 6-7)

Dated at Madison, Wisconsin, this 29th day of June, A. D., 1917.

(Page 8)

South Carolina Department of Agriculture, Commerce and Immigration. The Cotton Mills of South Carolina. AUGUST KOHN. *1907.*

None of the big mills run at night. . . . Within the last few weeks the Inman Cotton Mill in Spartanburg County has started to run part of its machinery at night. The Highland Park Mill is running some of its spinning at night. . . . Tucapan Mills and several other of the more successful large mills in the State at one time undertook night work, to balance up the machinery, but there are to-day not more than half a dozen mills in South Carolina—and they are all small—that do any night work, and if they could they would abandon it, as it seems to be generally regarded as a losing proposition to undertake night work. (Page 65.)

Women and the Trades. ELIZABETH B. BUTLER. *The Pittsburgh Survey. Russell Sage Foundation Publication. New York, 1909.*

Manufacturers complain that overtime is a loss to them. They say that their employes do poorer work at night, and that the cost in wasted material, in light and heating, is more than the profit gained by a lengthened day, but that they are forced to work overtime by custom-

ers who will not send in orders ahead. Nightwork, they say, is a means of holding their trade rather than of increasing their profits. Perhaps a universal legal prohibition would prove effective in overcoming the dilatoriness of customers in these seasonal trades, as well as in the trades where work pressure is irregular. Unquestionably much overtime has been eliminated in states that have stringent laws; much has been voluntarily avoided by manufacturers who have come to realize that night hours are in the long run a financial loss. (Pages 353-354.)

United States Congress. Senate Document No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. I. Cotton Textile Industry. 61st Congress, 2nd Session, 1910.

There were 293 cotton mills in North Carolina in 1908 (a), of which 59 were covered during this investigation. Of these 59, 31 operated at night, not counting 2 that had within a year discontinued night shifts. In 3 of these 31 mills neither children under 16 nor women worked at night. In 28 mills, however, women were employed at night; in 27, children under 16 years of age were employed at night; and in 12 of these mills children younger than 12 were employed at night. The investigation was carried on in North Carolina late in 1907. The employment of children at night was not then illegal in that state, but in 1907 a law was enacted which prohibited after that year the employment in factories of children under 14 years old between 8 P. M. and 5 A. M. (Page 284.)

In North Carolina there are many small cotton mills, and night work in the mills in this State has been more prevalent than in any of the other States covered during this investigation. North Carolina manufacturers who had discontinued night work and who were interviewed were unanimous in declaring that night work did not pay. They asserted that, as a rule, they could only induce an

inferior class of employees to work on the night shifts with a constant lowering in the quality of product, while at the same time a higher rate of wages than usual was required to secure even this class of help; that continuous operation resulted in more than ordinary "wear and tear" on machinery, and that there was a disposition to neglect the care of machinery, where used jointly by two shifts. The manager of a mill in Georgia, which had carried on night work for a year and abandoned it, expressed the feeling tersely by saying: "It was hard on the people and hard on the machinery."

In a publication published by the department of agriculture, commerce, and immigration of South Carolina, the statement is made that the few mills that were still continuing night work would abandon it if they could, as it seems to be generally regarded as a losing proposition to undertake night work.

In an interview with an agent of the bureau in 1908 a prominent cotton manufacturer of North Carolina said that the scarcity of labor had affected the profitableness of night work. When labor was plentiful, in the early days of the cotton industry in the South people came from the farms begging for work. They were so anxious to secure employment that the fact of its being night work did not matter. Then the mills were sure of securing as good a class of operatives for night shifts as for day shifts, and night work, in his judgment, was as profitable as day work. But from 1900 on, when labor began to be scarce, this condition vanished. The better class of operatives could always get day work. This left the least intelligent to do night work; hence the product of such work was of inferior quality and less profitable than the product of day work. (Page 285.)

Effect on Output.—United States.

United States Congress. Senate Document No. 645. Report on Condition of Woman and Child Wage-Earners in the United States. Vol. III. The Glass Industry. 61st Congress, 2nd Session, 1910.

Night work is at present an established feature of the furnace room of the glass factory, the department in which practically all the boys are employed. Its present wide extent is due almost entirely to the introduction, some twenty-five years ago, of the continuance tank. With the pot furnace, nightwork was not unknown, but it was rare, being seldom resorted to except in emergencies. With the pot furnace, indeed, the economy of night work was not particularly important. As a single pot was exhausted after an ordinary day's working, to run two shifts of workers, would require a double number of pots. The tank, however, was under no such disability. As "filling" and melting could proceed continuously, work at all the ring holes could also proceed continuously; and as a result, the mechanical equipment necessary for one shift became sufficient for two shifts, and a saving of fuel could be effected, for the furnace must be heated at night whether in use or not. The economy of two shifts, therefore, appealed so strongly that the majority of manufacturers put it into practice. The incentive, moreover, carried over to the pot furnace, and at present many factories with pot furnaces only, work at night as well as by day. That night work in the long run is an actual economy under normal conditions is, however, by no means certain. A number of manufacturers having tank furnaces do not run at night, and claim that the loss thereby incurred in fuel and equipment is more than compensated for by the better quality of men and boys securable when day work only is done and the better grade of work done by persons who work only by day. (Page 104.)

Ibid. Vol. IV. The Silk Industry.

One of the most powerful aids to the enforcement of this law (against night work) is the fact that the senti-

ment of the workers is decidedly against night work. This fact is recognized by the manufacturers, who have other reasons for not desiring to operate their plant at night, among which are inability to secure sufficient help for both day and night forces, higher insurance rates for night work, and the further fact that artificial light is not satisfactory to work by—especially in weaving. (Page 143.)

Bulletin of the United States Bureau of Labor Statistics, No. 117. April 10, 1913. Prohibition of Night Work of Young Persons.

The prohibition of the night work of young persons will make it possible for the workmen to adapt themselves to the new conditions, after a suitable period of transition, and will stimulate technical improvements in the glass industry. (Page 38.)

A glass manufacturer in Mons considered that less and worse work is done at night than during the day and intends to abolish night work altogether.

This experiment resulted in 1909, in the following conclusions:

It is evident that the abolition of night work presupposes in the first place that one condition should be fulfilled, namely, that sufficient room can be disposed of in the furnace department to allow a simultaneous working of two shifts. It is also necessary to increase the number of tools which these shifts are to handle (pipes, molds, benches, etc.), and to double the annealing ovens. The fire has also to be maintained during the night in the annealing ovens and fresh heating to be provided. To maintain also the same production of every furnace the number of pots for smelting the glass must be increased; the same quantity of molten and flint glass having to be taken from them during 12 hours instead of 24 hours. In consequence the expenses for fuel are larger. All these circumstances lead to an increase of cost price.

Still the exclusive work during the day affords a series of advantages. The supervisory staff and the cost of light may be reduced, the production is conducted in a more careful fashion, and less losses sustained from breakages.

Still other advantages result from abolition of night work.

The production per worker is greater and the earnings are increased, being piecework; disputes concerning spoiled work or concerning the amount of production are less frequent because on one and the same day the production counted in the furnace can be controlled in the cooling room. Accidents seem to be less numerous. . . . The adult worker is more satisfied and declares that his cost of living is diminished if he is only working during the day, being not obliged to take a meal during the night; furthermore, he is bound to give less time to sleep if he must sleep during the day. These are the results of a six months' experiment. This period is not yet very extensive, but the manufacturers interested have told us that it seemed to be sufficient to confirm that they do not wish to return to the old manner of organization.

The report of 1910 states that after a further experimental period of one year the manufacturers have declared that they were satisfied with the abolition of night work, and that henceforward they would prefer the operation exclusively during the day. (Page 40.)

It is certain that these reforms would require from the manufacturers greater organizing power rather than financial sacrifices. In many industries greater innovations than those which, for the reasons set out in the memorandum, the International Association considers to be indispensable, have been introduced, thanks to the salutary constraint of the law. In the present case it is not only vital questions, such as education and hygiene which are affected, but the object of this policy is also to safeguard the energies and capabilities of future generations. (Pages 63-64.)

Effect on Output.—United States.

Bulletin of the United States Bureau of Labor Statistics, No. 119. May 5, 1913. Working Hours of Women in the Pea Canneries of Wisconsin.

The manufacturer of canning machinery before mentioned wrote the Bureau under recent date:

There has been a tendency the last few years toward high capacity lines, but we do not believe real efficiency is served by such methods, as the service of the inspectors of capping, etc., can not be performed with as great efficiency.

Where the congestions have been met by overtime work, the effect of fatigue upon efficiency becomes important not only to the canner but to the cannery worker. According to a bulletin of the Federal Bureau of Chemistry, "Cap and tip leaks become most numerous when long runs are made and the workmen become tired. When night runs are made the greater number of leaks are found to occur in cans handled in the early morning." (Page 30.)

Testimony of canners.

"Inspectors and cappers do not do so good work late at night. They get tired and one of the boys takes the place for a while. Not more than one-fourth of 1 per cent are spoils due to poor inspection." This firm packed 22,000 cases in 1911. The loss through poor inspection was therefore 55 cases. At an average price of $2.40 per case (roughly estimated from the schedule of prices for Wisconsin peas, printed in the Canner of Jan. 4, 1912), this canner lost $132 through faulty inspection. The inspectors are rarely paid more than 15 cents an hour. Another inspector could have been employed at double the rate for 5 hours overtime during the entire season of 25 days at a total cost of $37.50. If the second shift inspector cut down the spoilage by one-third, she would have saved her own cost and put money in the firm's till. (Page 30.)

. . . "Girls are not able to do efficient work after the long strain of the previous day." (Page 31.)

Effect on Output.—Belgium.

Royaume de Belgique. Bureau de Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

FRANCE.

Where a change in industrial arrangements was necessitated by the law, that is, in the majority of cases can it be said that the textile industry of the Vosges felt injurious effects? And did the female workers suffer any as a result of the new régime?

Neither of these consequences were noticed, because the intervention of the law occurred in the course of a period of industrial expansion, at least in this region. This is the conclusion very clearly deduced from the explanations of the President of the Cotton Syndicate, as well as from the language of the principal directors of this same industry at Epinal and, one may add, at Belfort. (Page 42.)

French employers themselves . . . enumerate the many disadvantages attendant upon night work. The product was inferior in quantity and in quality; there was much more negligence, as might be expected when the workmen were sleepy; and consequently there was need of active supervision by energetic foremen—who themselves had to be supervised. It should be remarked, too, that shop discipline is worse at night. Finally, the machines are worn out more quickly by uninterrupted work; they cannot be so well cared for; it is more difficult to keep them oiled. All these drawbacks have sometimes been of such weight as to bring about the abolition of night work by manufacturers even in advance of the legislative prohibition. This was the case in a cotton mill in Belfort, which, having introduced night work in 1887 in consequence of an accident to a machine, and having continued it after the machine was repaired, voluntarily gave it up, in 1889. Some years later, the concern simply increased the number of spindles.

Effect on Output.—Belgium.

No less significant is the example of those firms which have established a nine o'clock closing hour for both sexes alike. They could, of course, have confined themselves—as did several of their competitors—to increasing the number of spindles, so that the women, working by day only, might do enough to keep two shifts of spinners busy—a day shift and a night shift. In the opinion of the president of the syndicate of Eastern cotton manufacturing, this case of complete abandonment of night work is the best proof of the disadvantages of such work. (Pages 43-44.)

Switzerland.

From the *economic* point of view no complaint (against the law) was formulated, at least in general; for the leaders of (Swiss) industry declare that the night work of women is cruel, disastrous to health, and moreover very onerous. Night production is very inferior both in quality and in quantity to daytime production, and it is much more costly. Finally, according to the remark of a large manufacturer of Zurich, M. Wunderly, night work lessens the powers of endurance, destroying that power of attention indispensable to the workwoman in order effectively to guard against accidents.

An important manufacturer of combed wool of this same city viewing the question from a high standpoint, expressed himself in the following manner:

"The manufacturers who exert their ingenuity in making the utmost demands upon the strength of their women workers, are guilty of a singular narrowness of vision. In Switzerland practical men are much more advanced from every view point. They realize that social peace is of the highest importance to business. . . . This spirit, which inspires them in all matters, influences them also in their estimation of night work, which is considered relatively unproductive, fatiguing and ruinous to the health of women. After some time such work brings about a manifest injury to working capacity, and the nation's industries show an evident inferiority in the contest wth foreign competition.

Effect on Output.—Belgium.

"One of the leading tobacco manufacturers of Beinwyl declared: 'I consider night work destructive of health and the longer I continue in industry the less inclined am I to introduce it. Without doubt there are industries where night work is necessary, but it is never necessary at any price to employ women and children.'" (Pages 85-86.)

AUSTRIA.

A manufacturer of the vicinity of Vienna gave the following as the chief drawbacks of night work:

"1. The *machines* are used up much more quickly. . . . Being employed uninterruptedly the equipment is more rapidly worn out.

"2. The *quality* of the output obtained by night work is inferior. Defects are more easily produced in such work. They also much more easily escape detection. Moreover, is it to be supposed that workers who have slept little during the day will be fresh when they reach the factory in the evening? The light is far from being as good as during the day, there occur accidents in the course of the production, the machines must be frequently stopped, sometimes for several hours. Then fines are imposed which make the workers discontented; then results poor work.

"3. The *supervision* of the foremen is much more difficult and indeed very exhausting. One of these told me that after a week of night work he was completely tired out." (Page 171.)

From all that has been said it follows that the prohibition formulated by section 96*b* of the law of 1885 has not caused any appreciable prejudice to Austrian manufacturers. (Page 172.)

That which considerably lessens the cost of abolishing night work, that which even, according to the formal statement of more than one mill owner, completely balances it, is the inferiority of night work. "It is contrary to nature," is the statement of a Catholic manufacturer who is at the head of one of the large establishments in Augsburg, where night work has long been given up if

it ever existed there. And nevertheless the dividends have never been less than those of competing firms who have worked twenty-four hours per day without interruption. (Page 219.)

GERMANY.

The director of a woolen mill of Chemnitz told me that he also had abandoned the night work of women before the law was passed, because it was too expensive and furnished only an inferior grade of output. (Page 220.)

The director of a wool combing establishment at Kaiserslautern made the following declaration:

"Soon after the new factory law went into force we had the satisfaction of finding that the abolition of night work had brought us advantages which may be viewed as compensation for the financial outlay occasioned by the investment of capital. Not only does day work continue a little longer than night work, but it produces a product essentially superior to the latter; this result alone justifies the prohibition of night work. The best proof that the experiences which we have had in the departments of preparation and twisting have not made us regret our financial expenditures, is that in the course of the last year we have installed new equipment permitting us to abolish *night work completely in the whole mill.*" (Page 220.)

The complete abolition of night work has also been brought about in a few similar establishments at Leipzig.

More decisive and more striking yet was an experience in the combing and washing of wool at Hanover. The head of this establishment made the following statement:

"Experience has shown that, in spite of the important sums necessary for new installations, *the cost of production not only was not increased*, but was even a little lessened. The explanation is found in the fact that all night work has great drawbacks; in this case, the supervision of the workers and of the machines is always very imperfect, and the execution of the work feeble and de-

fective. Our experience very completely establishes the fact that all supplementary expenses are compensated for with interest, by the more abundant and qualitatively superior production of day time." (Pages 220-221.)

A specially interesting case is that of a manufacturer of boxes at Baden. He had experienced serious fears at first as to the prohibition of the employment of women at night. And he had made great efforts, in vain, to obtain the benefit of an exception of the law. To-day these imaginary apprehensions have vanished. The firm recognizes without any reservations that it has easily obeyed the law. He writes "The suppression of night work has exerted a beneficent influence on the productivity and on the health of the women workers. Owing to the acquisition of a new machine for calendering and to an increase in size of the establishment we were able to avoid any falling off in production."

He added that there had been no diminution in wages and made the following statement with reference to the productivity of the women workers:

"The output is generally much better, because the oversight is better during the day, and the women have no occasion, before the beginning of work, to become fatigued by domestic cares, and they consequently come to their tasks much fresher." (Page 229.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son Importance et sa Réglementation Légale [*Night Work of Women in Industry. Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes en Belgique.* M. L. VARLEZ, *Barrister of the Court of Appeals, Counsellor at Ghent. Jena, Fischer, 1903.*

As to the differences in quality and quantity of production by night and by day: The chief advantage to the employer is in the continued use of his plant, with

the same or nearly the same cost to capital as if used by day only.

The disadvantages are that night work involves considerable current expense. Light and heating cost more, superintendence is more difficult and more expensive, work is less carefully watched and executed and discipline is less strict. Machinery is more quickly worn out, especially as it is more difficult to keep it in good order, and accidents are more frequent. (Page 134.)

Rapports sur l'Application pendant l'Année 1899 des Lois réglementant le Travail. (Loi du 2 Novembre, 1892, et du 12 Juin, 1893). Rapports des Inspecteurs Divisionnaires du Travail. [*Reports of the French Factory Inspectors on the Working of the Factory Laws of Nov. 2, 1892, and of June 12, 1893.*] *Paris. 1900.*

We are more than ever convinced that it is absolutely necessary to put an end to a state of things as prejudicial to the workwoman's health as it is little profitable to the sewing trades, and that all work after 9 P.M. should be forbidden. This is the wish of the employees, and we believe that the government, in proposing the adoption of this just measure, will not thwart the interest of the employers. The later work lasts into the night, the more fatigued is the working woman, and as a result her work is poorly done, so that she is often obliged to do over in the morning what she had done the night before.

We repeat, therefore, the recommendations that we make every year: that a good organization of work with plenty of workers would be more profitable to the employers than overtime. (Page 39.)

Effect on Output.—France.

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry. Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *L'Interdiction du Travail de Nuit des Femmes dans l'Industrie Française.* P. PIC, *University of Lyon. Jena, Fischer, 1903.*

It is beyond dispute that night work is very inferior, as regards quality, to day work. Mr. Strohl, a spinning mill owner in the Vosges, brought a very explicit report on this fact to the 1902 meeting of the French Association for Labor Legislation. Nor could his statements be contested by the manufacturers of the Lyons district where articles of luxury are produced. In the manufacture of colored silks, ribbons, etc., certain colors cannot be well seen by artificial light,—certain greens look blue, yellows, white or cream, etc. Broken threads are replaced with greater difficulty,—more mistakes are made. (Page 216.)

The prohibition of night work by women in 1892, and the suppression of work by alternating shifts in 1900, may have had at certain points, the consequence of reducing temporarily the net output of establishments where these older methods were in use. But, in a general way, these reforms do not appear to have had, on the total production, the detrimental influence predicted by the adversaries of regulation. (Page 217.)

As a matter of fact, many employers have succeeded, by reorganizing their plant, in compensating the loss, whether due to the abolition of female night shifts, or to the complete suppression of night work for all workers. The complete cessation of night work for all employees is an accomplished fact in a number of the Vosges spinning mills, and in most of the mills in the Rhone Valley. The latter industry employed women preferably because of their greater manual dexterity and many employers prophesied freely that the suppression of night work for women would mean speedy ruin. Their gloomy forecasts were not realized. The spinning industry did, it is

true, pass through a serious crisis at that period, but it was due, not to the suppression of night work, but to American competition. Other industries in the same region gave up their night shifts of adult men of their own accord, and perfected their plants. Such improvements did so much to increase output that certain industries were able to advance wages. This result according to Mr. Strohl, had a most salutary social effect; the men of family getting higher wages, the women withdrew even from day work in the factories and devoted themselves wholly to the nurture and education of their families. M. Strohl testified that under these circumstances not only did the withdrawal of the women from wage earning bring no hardships to the families of the workers, but their well-being was increased. . . .

This movement for the betterment of processes and mechanical equipment, following the adoption of a more strict legal regulation, was particularly marked in northern France. . . .

. . . In his report for 1901 the inspector for the division of Lille showed that, owing to new looms, experimented with in the woollen and cotton mills of his division, the complete application of the new law did not seem sensibly to influence the output. (Page 217.)

Rapport sur le Travail de Nuit des Enfants dans les Usines a Feu continu. [*Report on Nightwork of Children in Continuous Industries.*] *Association Nationale Française pour la Protection légale des Travailleurs.* [*French National Association for Labor Legislation.*] F. Fagnot, *Investigator attached to the Bureau of Labor. Paris, Alcan, 1908.*

We have consulted separately the secretaries of the two principal metal workers' unions in this region—M. Henin, formerly a metal-roller, secretary of the Anzin union, and M. Maillard, also formerly a metal-roller, secretary of the Maubeuge union.

Without having had any opportunity of coming to an understanding with each other beforehand, the two secretaries make the same complaints and give the same advice. They both point out the difficulties and the dangers of nightwork, both from the physical and from the moral point of view. They show that nightwork increases living expenses, not only for the workman, but for his family also. They dwell upon the considerable number of accidents resulting from night-work—especially minor accidents to children, such as burns, sprains, dislocations, etc. (Pages 10-11.)

M. Hancart, treasurer of the national federation of glass-workers, declared in the name of the federation his strong disapproval of nightwork. . . . In a letter summing up his opinion, M. Hancart adds the following considerations:

"It will be the same with nightwork as it has been with the eight-hour day. When the workmen get a proper kind of rest, they will be more efficient than they are today. The enormous difference in efficiency between the eleven-hour workmen and the seven-and-a-half-hour workmen is already noticeable; the latter make as many bottles in a day as the former." (Pages 21-22.)

M. Wagret, one of the principal glass manufacturers of the north, considers that every measure that is beneficial to the workmen, even if it entails expense for the firm, is nevertheless to the firm's own interest. "I am not a philanthropist," he says, "but simply a manufacturer who attends to his business, and I am merely trying to get a return on my capital." (Page 28.)

Le Travail de Nuit dans la Boulangerie. [*Nightwork in Bakeries.*] MAURICE BOUTELOUP. *Larose, Paris, 1909.*

As a matter of fact the bakery business has remained extremely unprogressive in many localities. But it seems certain that this condition will change as soon as there is any advantage to be gained by making the change.

Effect on Output.—Germany.

The Italian bakery business has made considerable progress during the last few years, since the law prohibiting night work was passed, new experiments have been tried and new methods of work established. (Page 252.) . . . The introduction of improved machinery is an indirect result of the prohibition of night work. Every effort has been made to increase and perfect production. (Page 254.)

Amtliche Mittheilungen aus den Jahresberichten der mit Beaufsichtigung der Fabriken Betrauten Beamten. IX. 1884. [*Official Information from the Reports of the German Factory Inspectors.*]

Night work seems to be on the increase. . . . My observations have convinced me that night work should be strictly limited to those lines of work whose requirements make it absolutely unavoidable, or to those where a minimum number of exclusively male operatives may be employed. On the part of the employer two considerations favor this view: 1. The product of night work is usually poorer, and dearer. 2. The machinery suffers on account of the double shift. It may be easily proved in those factories that run continuously that the machinery suffers from the incessant use and from the change of workers, each of whom leaves some part of cleaning and tending to be done by the next. (Page 428.)

Amtliche Mittheilungen aus den Jahresberichten der mit Beaufsichtigung der Fabriken betrauten Beamten. Vol. XIV. 1889. [*Official Information from the Reports of the German Factory Inspectors.*]

The conclusion arrived at is that even these factories (at Delmenhorst) would gladly do away with night work if their competitors would also do so or could be compelled to do so. It has been shown that day and night

shifts do not give a doubled output. The proportion as compared with the output of factories of the same capacity running by day only is as 9:7. (Page 89.)

Amtliche Mittheilungen aus den Jahresberichten der Gewerbe Aufsichtsbeamten, 1890. [*Official Information from the Reports of the German Factory Inspectors.*]

In the district of Planen the leading factory owners, some of whom had employed women on night work, agreed that legislation forbidding night work for women could be enforced and would be received with general satisfaction. (Page 88.)

The inspectors for Alsace Lorraine state that night work for women is now regarded throughout the whole province as unproductive and even as a menace to morality. (Page 88.)

Das Verbot der Nachtarbeit. [*The Prohibition of Night Work.*] *A Report at the International Congress for Labor Legislation, Paris, 1900.* Dr. Max Hirsch. *Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft, Vol. XXV. 1901.*

The second and chief argument against the assertion that night work is profitable to the employer is the invariable inferiority of the output in point both of quantity and of quality. . . . Here are a few absolutely authentic statements from employers. A manufacturing chemist writes: "It is only in big concerns, where there is strict supervision, that the night workers can be made to give the same output as the day workers. Unless they are constantly under inspection, the best of them give way to natural fatigue and go napping now and then, thus making many mistakes which have to be corrected the next day". . . . Another manufacturer writes:

Effect on Output.—Germany.

"The adequate and conscientious supervision so necessary in the case of night work is very seldom possible, since it involves a double force of superintendents or managers. . . . In G. (a large machine factory) we have had a great deal of night work, but it has never paid. The turners are at their lathes, apparently working, but when you come up to them you see that though the lathe is being turned, the steel is not going in. The workers are trying not to get tired for fear of spoiling the job. It is true that when the system is that of piece-work, the people work, but then the results of night work are shown in the inferiority of the product. . ."

The head of the public service enterprises in a Prussian provincial capital deplores the necessity of night work, especially in the gas works, and . . . confirms and supplements the above account of its economic disadvantages. He reported, among other things, that in his many dealings with night workers he never gave out piece-work, since if he did the product would be so defective that it would be quite too bad to use. But, he said, even with the other system, every observant expert knows that the output of night work is only seventy-five per cent, or even only sixty per cent, as great as the output of the same amount of day work. The same estimate was given us by a Berlin engineer and by other employers—all of whom furnished the information of their own accord. With a loss of twenty-five per cent or more in the output, what becomes of the advantage of night work to the employer? We must suppose that those who think night work economical, merely because of the increased utilization of the plant, are deceiving themselves pitifully—as are those who think they profit by excessive hours of work. (Pages 1270-1271.)

Effect on Output.—Germany.

Jahresberichte der Gewerbe-Aufsichtsbeamten und Bergbehörden für das Jahr 1907. [*Reports of the Factory and Mine Inspectors for 1907.*] *Prussia, 1908.*

(In the case of a certain textile mill certain reasons induced permission to work at night for a while with women, and boys over 14:) It is noteworthy that this experience with night work showed that the output for the night was far below that of the day, as the workers attended their machines half asleep. (Page 303.)

Jahresberichte der Gewerbeaufsichtsbeamten im Königreich Württemberg für 1912. [*Reports of the Factory Inspectors in the Kingdom of Württemberg for 1912.*]

Night work steadily grows less. Thanks to the progress being made in the field of technique, many branches of industry which, as was formerly believed, could not get along without night work have limited the work to the day time without loss of productiveness. (P. 16.)

Jahresberichte der Königlich Bayerischen Gewerbeaufsichtsbeamten für das Jahr 1913. [*Reports of the Bavarian Factory Inspectors for the year 1913.*]

A cotton factory, which last year introduced day and night shifts in the industry, has given up the night work as uneconomical. (Page 133.)

Effect on Output.—Italy.

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry. Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes dans le Développement de l'Industrie Moderne en Japon.* M. MATSUZAKI, *University of Tokyo. Jena, Fischer, 1903.*

One mill owner reports the following fact:—

"The products of night work are 30 per cent. inferior to those of day work. We may conclude that, as regards the laborer, night work is more fatiguing than day work. It is not correct to maintain that those who work at night can sleep during the day. Sleep during the day is less undisturbed than at night. Often night workers amuse themselves with their fellow workers during the day instead of resting." (Page 294.)

Ibid. Le Travail de Nuit des Femmes En Italie. G. TONIOLO, *University of Pisa.*

Economic reasons of general interest enter into the question of prohibiting night work. Such is for example the active competition between manufacturers using steam power and those using water power; the latter (who are very numerous in northern and central Italy), wishing to secure the full benefit of their motive power, tend to continue work through the night, which the former cannot do without great expense. The manufacturers using steam power are the ones demanding legal prohibition of night work, in order to remove this inequality. . . . There enters into this propaganda also a large and farseeing idea of social economy, that is, the prevention of that over-production which in other countries has resulted in a permanent industrial crisis, by the legal prohibition of night work in those industries whose development has been in Italy so rapid. Technical

experiences and the interests of international competition likewise encourage the general tendency. Everybody knows that night work results in products of an inferior quality. Since, in a product placed on the market, one cannot distinguish the perfect from the imperfect parts, the whole product is in the end discredited and depreciated. By invoking the law, at least against the night work of women, manufacturers expect to check those of their colleagues who seek only to increase the quantity of their output to the detriment of the quality and thus bring discredit to the nation's industries. (Pages 289-290.)

Sull' influenza della luce naturale nel lavoro. [*The Influence of Natural Light upon Labor.*] DR. L. BOLETTINO. *Proceedings of the 1st International Congress on Industrial Diseases. Milan, June, 1906.*

There are so few industries absolutely requiring night work, that its prohibition would not result in serious, practical difficulties. Night work is much more wearing than day work, and repose during the day does not compensate the toiler for the fatigue of the night. The abolition of night work would result in real benefit not only to the working classes but also to the employers themselves because it is conceded that day work is more productive than night work. (Page 104.)

La fisiopatologia del lavoro notturno e la legislazione italiana. [*The Physiological Pathology of Night Work and Italian Legislation.*] DR. AMBROGIO MORI, *Assistant at the Pediatric Clinic of the Royal Institute of Research, in Florence. Il Ramazzini, Oct.-Nov., 1907.*

Also night work should be recognized by industrial employers as tending to cause a diminished and imperfect production on the part of the workers and as a mutual

injury since it involves reparation to the injured worker.

Many industrial employers are convinced of this truth—for instance in the Département du Midi in France—and above all the Insurance Companies have come forward with their statistics; from which it is shown once more that in the end all the crimes that modern industrialism commits against the laws that govern muscle and brain work and that violate the rights of the worker, will be paid for by a money loss suffered by the industry that permits night work. The worker should be instructed in hygienic matters for his own sake, for that of his family and of society in general. . . . (Page 626.)

3. Effect on Employment of Women; Measures Taken to Maintain Output.

Where the night work of women has been prohibited by law, employers have often found it possible to abolish night work altogether and have maintained output in various ways; by increasing their day force, by enlarging their establishments, by improving machinery and processes of manufacture. Such measures, together with the increased efficiency of the workers, have compensated for the loss of women's night work. In many establishments it has proved possible to avoid night work and late overtime by a greater regularity of work.

Where night work has been unavoidable, the replacement of women by men at night has not resulted in their total loss of occupation, but only in the employment of men in their places at night. With single exceptions the prohibition of women's night work has not contracted the scope of their employment.

Amtliche Mittheilungen aus den Jahres-Berichten der Gewerbe-Aufsichtsbeamten, 1884. [*Official Information from the Reports of the German Factory Inspectors.*]

Leipzig.

In the factories having regular night work for women weekly shifts have been established. The women who are on night work during a given week work up to 6 or 7 A. M. of the Sunday following their week. They are then laid off over Sunday, and on Monday begin day work at 6 or 7 A. M. It can hardly be contended that

the needs of industrial production actually require night work of women, injurious as it undoubtedly is to them, for in those lines of industry where night work is the rule only occasional firms employ women at night, whilst the others have either never employed women or have given up doing so. In many establishments, such for instance as textile factories, night work is undertaken solely for the sake of greater production and higher profits. But in a wool carding mill the owners are about to abolish all night work voluntarily and meet the question of larger production by increasing the number of their spindles. (Page 353.)

Meissen.

Night work for women is carried on in a paper mill and a sugar mill. While in the latter, the employment of women at night may be temporarily unavoidable on account of the rush, in the former they are only employed thus because of the lower wages they get. Women are paid 1 mark on night shift while men for the same work and hours are paid 1 mark 50pf. Night work is, incontestably, injurious to the physical development and to the general well-being of women and to their moral standards. It should be done away with everywhere unless the interests of industry would be very seriously damaged thereby. My observations have not shown me that this would be the case, as other establishments do not find it necessary to employ women at night. (Page 391.)

Amtliche Mittheilungen aus den Jahres-Berichten der Gewerbe-Aufsichtsbeamten. XX. 1895. [*Official Information from the Reports of the German Factory Inspectors.*]

Baden.

That women can easily be replaced by men for night work is specifically declared in the reports from many quarters. (Page 177.)

Effect on Employment of Women.—Germany.

The official (of a mining region) is of the opinion that the slight difficulties in the way of replacing women by men on night shifts are not to be compared with the grave dangers involved in the employment of women at night. (Page 178.)

Amtliche Mittheilungen aus den Jahres-Berichten der Gewerbe-Aufsichtsbeamten, 1898. [*Reports of the German Factory Inspectors.*]

The prohibition of night work for women in the sugar factories and refineries went into effect without any difficulties. The factories of the Breslau district replaced the women by men of other nationalities. (Galicians, etc.) (Page 85.)

Die Wirkung der Schutzbestimmungen für die jugendlichen und weiblichen Fabrikarbeiter in Deutschland. [*The Working of the German Factory Laws for Women and Children.*] Dr. Arthur Dodd. *Jena, Fischer, 1898.*

The abolition of night work caused some disturbance in newspaper printing where women had been employed. They were replaced here by men, and similar instances were noted in some other industries. However, the whole number of employed women increased. (Page 80.)

Report from Leipsic, Saxony, in 1894, stated that only in the case of one factory (wool carding) had a small proportion of women been dismissed as a result of the restrictions on night work. (Page 86.)

Report from Meissen was of same tenor; the prohibition of night work only resulted in dismissal of women from paper mills. (Page 86.)

In general all the provincial reports state that the employment of women in industry was not lessened in consequence of prohibition of night work. (Pages 85-86.)

Effect on Employment of Women.—Germany.

Threats of employers to dismiss women on account of restriction were only occasionally carried out, and then from anger only. A gradual accommodation took place. (Page 87.)

It next appeared as if the restrictions had actually stimulated industry and larger day staffs were taken on to balance the lost night work and keep up production. Plants were enlarged. (Page 88.)

All reports from provinces showed that employers had enlarged their plants, and either put men on duty at night in place of women, or stopped night work altogether. (Page 95.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night work of Women in Industry. Reports on its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Jena, Fischer, 1903.*

At first there was ground for expecting that the prohibition of night work by women would result in their loss of previous occupations, and their replacement by young workmen or even by the more costly adult laborers. The facts of experience, collected from almost all countries, disprove this supposition, constantly made by the adversaries of restriction. (Page xxxv.)

In the German Empire certain woollen manufacturers attempted, after the promulgation of the law of 1891, to recruit young workmen for night work, in place of women. The objections to this practice were found, afterwards, just as before, in the mediocre quality and the small quantity of articles produced during the hours of night; in the greater instability of this young labor force; the abolition of the alternation of shifts of workers and the resultant exhaustion of the men, from working at night after having been charged during the day with labor more fatiguing than that required of women. It is easy to trace, between 1882 and 1895, the numerical changes in the different classes of workers in German in-

dustries. The proportion of working women rose from 13.31% to 16.65%, while the proportion of young men remained about constant (rising from 26.26% to 26.98%). (Page xxxvi.)

The effect on industry of the interdiction of night work by women is shown (1) by the elimination of work qualitatively bad and (2) by the increase in the size of factories and by the renewal of machines. Both of these are steps in advance which have resulted from the prohibition of night work. Moreover, the much greater power of production of the new equipment permits the payment of higher salaries to the male workers replacing the women; and this increase more than compensates for the slight loss of revenue which the family must endure through the prohibition of night work by women. (Page xxxix.)

Royaume de Belgique. Office du Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night-work of Women in Industry in Foreign Countries.*] Maurice Ansiaux. *Brussels, 1898.*

France.

The steady growth of the textile industry in the Vosges is well shown by the following experience: For about ten years the English threads had the preference, at equal prices, in the Vosgian market; to-day at equal prices, the native threads, on the contrary, are most sought after. A further proof of this development is moreover the erection of new mills, which have very easily absorbed all the women who had lost their employment in consequence of the prohibition of night work and their displacement by male workers. (Pages 42-43.)

But was not the expense serious? Yes, only the compensations which have accompanied the change and which are equally important, should not be omitted.

These compensations are emphasized by the captains

of industry themselves when they enumerate the many disadvantages of night work. The output was less and was less carefully done. The negligence was very much greater—a not astonishing result of the sleepiness of the workers. Moreover, there was need of active supervision and of energetic foremen, whom also it was necessary to watch.

We note also that the discipline is less effective in the factory at night. Finally the machines are used up more quickly by uninterrupted work; they cannot be so well maintained; the oiling is more difficult.

All these inconveniences are, it would seem, so considerable, that one should not expect legislation to be necessary to bring about the cessation of night work. There is the case of the cotton manufacturer at Belfort, who after having introduced night work as the result of an accident to his machinery, continued it after the repairs were made, but voluntarily discontinued it in 1889. Some years later his establishment simply increased the number of spindles. (Pages 43-44.)

What have been the consequences of the law from the point of view of the working women? Has it lessened their number and increased the number of men employed and what has been its effect on their wages?

In regard to the number of women employed a distinction should be made between the nature of the trades. In a trade which can be carried on by men, the regulation of the night work of women only may have the effect of bringing about a preference for male labor, which is free from all legal restrictions. But the effect is otherwise in all trades to which women only are adapted; this is naturally the case in all industries requiring needlework and they are numerous. Here there is an increase in the female labor force. (Page 143.)

Austria.

After these general remarks, let us now view more closely the measures which have been taken to supply the output of the night work of women, henceforth prohibited in Austria.

On the one hand a certain number of establishments, notably the spinning mills, have replaced the women previously employed at night by men. It is appropriate to add that the women were replaced as a rule by young men of ages 19 or 20, whose wages were not so great as that of adult men.

Moreover, this substitution was effected without any injury to the industry in the quality of the work, at least in the spinning of carded wool. There was of course a period of transition during which it was necessary to accomplish the apprenticeship of the young men, but this is not work at which they are less apt than women. In fact, in carding, men of the trade say that fineness of touch is no longer of importance; the machine itself equalizes the wool; it suffices to feed this machine, a work which requires no skill.

The inspector at Brunn, M. Czerweny, also stated the same fact. All the tasks previously accomplished by women in the spinning of wool are now performed by men, without any complaint that they are less well executed; the masculine worker lacks none of the necessary qualities.

That is one solution. It has not been adopted by all manufacturers. There are those who preferred to maintain their entire contingent of female labor and to enlarge their establishments and equipment so as to work only during the daytime without producing less than in the past. (Pages 169-170.)

We may ask what has been the influence of this regulation on the conditions of the women workers of Austria?

In the first place, has it resulted in a reduction of the number of women workers?

An affirmative answer would assuredly not be correct. Perhaps there has been momentary losses of employment; in fact, it would be nearer the truth to speak of changes, of displacement. (Page 175.)

GERMANY.

Immediately following the vote on the German law of 1891, it became necessary for mill owners to determine

what arrangements they would make with a view to counter-balancing the falling off in output occasioned by the suppression of night work.

Some of them adopted the plan of substituting young men for the women; others—and these were most numerous—preferred to enlarge their establishments and increase the number of their machines, so as to produce during the day as much as they had previously produced by working continuously during twenty-four hours.

In Germany, the former of these alternatives has been judged inexpedient. Those who adopted it have not had grounds for satisfaction. Such is the case with the wool combing at Leipzig, of some of the establishments at Mülhaus, of the spinning mill at Kaiserslautern and of that at Düsseldorf. These last two establishments, after sufficient experience, have already abandoned this policy. They also have decided to enlarge their establishments; as for the first it has done so already.

Why has this first solution appeared disadvantageous? In what way was it defective?

Its defects are twofold. In the first place there is in this case an absolute obstacle to the alternation of shifts, since the women can be engaged only for daytime work. It follows, therefore, that the young men work constantly at night, a result with which they have no reason to be pleased. The fact is that at Düsseldorf it has been noted that the young and indeed excellent workmen, were compelled to give up continuous night work, in spite of very good wages, for the especial reason of injury to their health.

Moreover with this combination the work is not always as well done, while being generally more expensive.

The quality is inferior because the boys become fatigued, resting less during the day than the women had done. (Pages 214-216.)

At Düsseldorf, a woman spinner earned 80 pfennigs less than a young man. The textile establishment of this city made this substitution for 58 persons. This was a

quite serious increase of expenses, which will be avoided by the complete suppression of night work, by enlarging the building and increasing the equipment. This has not been, however, the sole reason for the change of system. The head of the firm explained also the incomparable superiority of day work and the greater stability of the female labor force. (Page 217.)

The inspector at Arnsberg reported that the manufacturers of his district have declared themselves well satisfied with the measure which we are considering (Prohibition of night work) in spite of the enlargement of equipment which was made necessary by its adoption. (Page 229.)

British Sessional Papers. Vol. XXVIII, 1844. Reports of Inspectors of Factories for the Half Year Ending 31st December, 1843. L. HORNER.

Instruct male adults in the business, and employ them whenever the necessity of night work is forced on you (i. e. the manufacturer). If the trade is not profitable enough to enable the mill occupiers to do this, and whatever restriction is imposed be applied equally on all in the trade, I do not doubt a remedy will be found, and the demand for goods so equalized over the year as to make it desirable to erect a little more machinery for the purpose of meeting that demand. (Pages 24-25.)

British Sessional Papers. Vol. XX. 1878. Reports of Inspectors of Factories for the Half Year Ending 31st October, 1877.

A few months ago you instructed me to prosecute a firm of printers in the city for employing women during the night contrary to law, and this case has been made the text of an article in the monthly journal of the society, in which it is sought to prove that the influence of such a law must be most prejudicial to the morals of

women by placing them at a disadvantage when seeking to make an honest living. It will not be difficult to show that whatever encouragement may appear to be given to this view by a theoretical consideration of the Factory law its influence when in practical operation has been entirely and altogether the reverse. . . . It has encouraged the employment of women rather than otherwise, their average earnings since it came to be enforced have increased in a large proportion and not a single fact can be adduced, which would even appear to support the monstrous assertion that it affords encouragement to vice and prostitution. (Page 15.)

. . . The argument that the tendency of the Factory Acts is to place an artificial restriction on the employment of women, and thus to depreciate the market value on their labour, is refuted on every hand by practical experience in the textile manufactories. Here the restrictions upon women's work are the most stringent; and yet the tendency for a long series of years has been the opposite, the proportion of women employed has steadily increased. The same observation applies to many of the trades and occupations carried on in London. As for the rate of wages paid, there is not an employer in the metropolis who will hesitate to acknowledge that there has been during the last ten or fifteen years a very substantial and important advance in the remuneration given to women for their work. (Pages 15-16.)

The Case for the Factory Acts. Edited by Mrs. Sidney Webb. *London, Richards, 1901.*

But, it may be objected, that although Factory Legislation would improve the women, it annoys the employer, and makes him inclined to get rid of women altogether and employ men. As a matter of fact, this course, though often threatened beforehand, is not in practice followed. Where women can be employed, their labour is so much cheaper than that of men that there is no chance of their

being displaced. The work of men and women tending automatically to differentiate itself into separate branches, it follows that there is very little direct competition between individual men and women. (Page 209.)

Factory Legislation considered with Reference to the Wages, etc. of the Operatives Protected Thereby. George Henry Wood, F.S.S. *London. Journal of the Royal Statistical Society, Vol. LXV. 1902.*

An important aspect of factory legislation is its effects on the numbers of protected and unprotected workers employed. If the regulations are irksome and hamper industry, changes might be expected in the direction of employing unprotected male adults in the place of protected women, young persons, and children.

There are, however, two important reasons why this may not have taken place. First, the protected workers are usually employed in routine process, where the employment of an adult male would not bring about a sufficient increase in the amount produced to pay that worker a reasonable wage. Second, the regulations of the trade unions which the male worker might join would probably become as stringent in relation to hours of labour as the Factory Acts, and as the hours now allowed by the Acts are above rather than below the average working week in industries where men are chiefly employed, it is reasonable to suppose that trade union action would reduce the hours in textile and other factories also, and the employer would not be the gainer in the hours which his machinery might run. (Page 309.)

. . . The percentage of children employed diminished after 1835 until the "sixties," when the expansion in the textile trades brought about a marked change. The increase continued for only a few years, and though the small proportion of 1850 has not yet been reached, a considerable decline has taken place. Males between thirteen and eighteen years have declined almost con-

sistently, their places apparently being taken by females over thirteen years. This is only the substitution of one class of protected workers for another, and cannot be due to any movement to evade the Factory Regulations. It may be and probably is, due to the increased efficiency of the labour of female young persons and women, and in so far as this increased efficiency may be ascribed to Factory Acts, it is in the nature of an indirect effect. Women's labour was not regulated until 1844, so any change in the relative employment of men and women before that date is not traceable to the Acts, and since then the percentage of men employed has varied little. On the whole there seems no evidence of a movement in favour of the substitution of unprotected for protected workers, and the chief result of the changes has been a substitution of the protected adult and young person for the similarly protected child. In the interests of coming generations, this seems a most satisfactory and desirable direction in which to move. (Page 311.)

History of Factory Legislation. B. L. Hutchins *and* Amy Harrison. *2nd Edition. London, King, 1903.*

It is surely extremely significant that whilst the attack on the regulation of women's labor has been fruitless in better organized industries—that is, in those which can make their wishes felt—it has taken effect precisely in those industries which are unorganized and collectively inarticulate. By the admission of the opposition itself, the women whose trades have been under State control for thirty, forty, or fifty years are now so strong, so efficient, so well organized that even those who most strongly disapprove of State control do not wish to withdraw it from them. Yet we are to believe that to those who are still working long hours, in unsanitary conditions, State control would mean lowered wages, perhaps ruin. (Page 193.)

Effect on Employment of Women.—Great Britain.

Le Travail de Nuit des Femmes dans l'Industrie: *Rapports sur son importance et sa réglementation légale.* [*Night Work of Women in Industry. Report on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Le Travail de Nuit des Femmes dans l'Industrie Anglaise.* GEO. H. WOOD, F. S. S. *Jena, Fischer, 1903.*

The restrictions imposed on the employment of women, girls and children have not resulted in any displacement of female labor by male labor, except in the branches of the lead industry in which the employment of women is absolutely prohibited. Considering the entire textile industry the proportion of women employed has remained comparatively stable during the last sixty years, and the successive raising of the age at which children may be employed in factories has been the means of increasing the proportion of adults employed in these trades in the place of young women and children. In other trades the regulations of the hours of work for women has not resulted in impeding the employment of women, nor in increasing the proportion of women doing work at home, nor even in diminishing the number of women working in mills. (Page 244.)

The Employment of Women in Paper Mills. B. L. HUTCHINS. *The Economic Journal, London, June, 1904.*

Night work became illegal for women under the Factory Acts Extension Act of 1867. It does not appear that a very large number of women were affected or that the prohibition caused any serious inconvenience. The master just quoted says that the work done by men and women being essentially distinct, there was no real need for women to work on the night shift at all, and thus it was an easy matter to rearrange things so that the women continued their own work under the regulations of the

Act. His words were: "We got used to it and it was much better." None of the masters questioned thought night work for women could be necessary; most did not know it had ever been customary. . . . It is here and there considered oppressive not to be able occasionally to work a few extra hours to meet a sudden demand, and one or two masters think it hard on the women that they should not be able to profit by the opportunity of earning more money. The women do not seem to consider this a grievance; one, when questioned said, "We begin at six, and have had quite enough by five." (Pages 237-238.)

The question may be asked, "Has the regulation of women's hours caused any restriction of women's employment?" . . . No evidence is forthcoming to show that women have been dismissed or set aside owing to the regulations of the Act; no employer and only one foreman thought the regulations had any such tendency. . . . The prohibition of overtime is sometimes considered an inconvenience; but not one of a nature to cause displacement of women. (Pages 239-240.)

To sum up it would seem at first sight that women are especially handicapped in paper-making owing to the fact that night work is considered essential, is prohibited to women, and is permitted under certain conditions to the most formidable competitors of women, viz., male young persons. Nevertheless, the demand for women workers seems to be steadily increasing and no displacement can be shown except that which has been brought about by the process and development of the industry on its mechanical side. The hours worked by the majority of women are about 25 per cent shorter than the legal maximum, and this arrangement is mainly due to conditions inherent in the industry itself, the main features and characteristics of which have been little affected by the provisions of the Factory Act. As regards the minority, certain grave abuses have been checked, night work and overtime have been abandoned and there is no evidence that the employment of women has been

thereby hindered. Wages have risen though hours are shorter. . . . The demand for women's labour is greatest and their earnings are said to show most of the upward tendency, in the lighter, cleaner, and more dexterous employments. In these better skilled branches, where healthy conditions are necessary to maintain efficiency, the regulations of the Act, so far as they enforce those conditions, do not hinder but promote the employment of women, and tend indirectly to divert their labour into those channels where it is least at a discount and most in demand. (Pages 247-248.)

Women in the Printing Trades. Edited by J. Ramsey MacDonald. *London, King, 1904.*

The chief contention of those who oppose special factory legislation on the ground that it limits the usefulness of women compositors is, that women are not employed on newspaper work, and they give the legal prohibition of nightwork for women as the reason. Careful enquiry has shown that reason to be purely imaginary. Women are not employed on evening papers, though the factory law does not stand in their way. In the provinces women set-up one of two weekly or bi-weekly journals, the firm employing them preferring them solely on the ground of cheapness. Experience shows that women are not suited for newspaper work, unless the paper does not appear more frequently than, say, twice a week, and if the factory code disappeared tomorrow, morning daily newspapers would afford to women compositors no fresh openings. (Pages 74-75.)

The thirty-three firms, the authorities of which are returned as having stated that they give at night work done by women during the day, consist for the most part of printing houses, and the work done by women was folding. The result produced by legislation is that men do the folding at night and on Saturday afternoons, when there is a press of business, but in one or two cases, a regular staff of night workers is employed. As the men

are slower workers than the women, and charge a far higher price for their labor, it is to the employer's interest to reduce nightwork to a minimum. Prospectuses, however, and weekly newspapers have to be folded during the night, and this must fall to the men's lot. In two firms, men occasionally do relief stamping for Christmas cards when there is a great press of work and in one firm they do card mounting. In none of the above firms is there any question of employing men instead of women in the daytime. (Page 89.)

Women's Work and Wages. Edward Cadbury, Cecile Matheson, *and* George Shann. *London, Unwin, 1906.*

It is often stated by those who oppose regulation of women's work by legislation that the effect of such legislation is to displace women in favour of men. Our inquiry seems to prove, however, that this idea is erroneous, and that in the large majority of cases . . . it is other questions altogether that determine the division of labour between men and women. A great deal of light has been thrown on the question of women's work and wages generally by the elucidation of the fact that as a rule men and women do different work, and the relation between men and women workers is, on the whole, that of two non-competing groups. It is quite true that that marginal division between the two groups is constantly shifting, but in the particular trades where this is the case the questions considered are the difference in wages between the two groups, their aptitude and physical fitness for certain work, and the fact that women expect to leave work when married. (Page 39.)

Effect on Employment of Women.—France.

L'Interdiction du Travail de Nuit des Femmes dans l'Industrie Francaise. [*Prohibition of Night Work for Women in French Industry.*] A. CHAZAL. *Paris, Pedone, 1902.*

The principle itself of the law of 1892, that is, the prohibition of night work of women, had been the subject of numerous discussions both in the Chamber of Deputies and in the Senate, and it was feared that it would meet many obstacles in its enforcement; but the facts have proved quite the contrary, and the fundamental principle of the law has been respected, at least in the most important centers. However, those manufacturers who had employed women permanently for night work, were compelled to make great alterations in the disposition of their laborers in order to meet the requirements of the law. (Page 65.)

The report of the *Commission Supérieur du Travail* for 1893 states: "Manufacturers almost everywhere showed the best of good will in complying with the legal requirements."

"In the Department of Vosges", said the inspector of the fourth precinct (M. Chambard), "where last year there were counted a score of cotton mills that operated both day and night, there are now found not more than five or six that continue night work, employing men over 18 years of age. It is probable that very soon night work will have ceased everywhere, to the great good of the laboring class.

The employers succeeded in giving up the employment of women and children at night by enlarging their works. This occasioned them a very considerable expense but they did not hesitate to meet it in order not to reduce their output." (Pages 66-67.)

Bulletin of the United States Bureau of Labor. No. 80. January, 1909. Women and Child Wage-Earners in Great Britain. VICTOR S. CLARK, Ph.D.

When the early factory laws of Great Britain went into force women workers opposed provisions in the fac-

tory acts limiting their hours of work for fear that such limitation would lead to the displacement of women by men. Women had been substituted for children in textile mills when the hours of the latter were first limited, and it was perhaps natural that the women should fear being in turn supplanted. But while the factory law has doubtless caused some redistribution of employment among workers of different age and sex it has not upon the whole lessened the demand for female labor.

It is true that there has been a decrease in the proportion of the female population working in industrial occupations since the factory acts first went into force, but there has been an increase precisely in those occupations where those acts might have been expected to have most influence. The following table gives the number of female employees in every thousand workers in several of the more important industries where the hours of labor have been restricted by factory legislation, by 10-year periods, from 1861 to 1901.

NUMBER OF FEMALES IN EVERY 1000 EMPLOYEES, BY INDUSTRIES, 1861 TO 1901.

Industry.	1861.	1871.	1881.	1891.	1901.
Bookbinding	450	488	527	554	603
Boots and shoes	154	115	160	185	210
Cotton manufactures	567	598	620	609	628
Pottery and porcelain	311	354	384	385	392
Tailoring	208	254	330	427	471
Tobacco manufactures	221	296	435	548	601
Woollen and worsted manufactures	461	513	561	557	582

Women and The Trades. Elizabeth B. Butler. *The Pittsburgh Survey. Russell Sage Foundation Publication. New York, 1909.*

Hard candy making does not require overtime for the girls who work at it. For example, one firm has found it practicable to confine all overtime to the men employes.

The men do the making, boiling, squaring, coloring, cutting, and packing in pails. The girls merely pack the peanut bar in boxes, and by a little rearrangement of work they can keep up to the men's output without staying later than six o'clock at night.

There is not a manufacturer in the trade but will admit that overtime is a bad thing. It is no longer questioned that long hours mean inferior work the next day, and that the Christmas trade, upon which the prosperity of the industry so largely depends, means a long pull and a physical strain not to be counterbalanced by extra pay and easier work afterward. (Page 54.)

This congestion of work, however, cannot be avoided by a redistribution of orders alone. A second solution lies in carrying to a further point methods of handling materials, which are already familiar to the technical men in the industry. By further studies of the keeping qualities of candy it is not impossible that much candy made in the spring can be used for the fall trade. To a certain extent this is already done in the case of chocolates. A good chocolate mellows by keeping and has a better taste six months after it is made than the day after. The cream inside is protected from the air, and so remains in good condition. If orders are but given in advance, experienced candy makers hold that it will in time be entirely possible to make up in the spring chocolates for the Christmas trade. Creams present a different problem, for no way has yet been found by which they can be kept any length of time without deterioration. The trade in them is lighter than the trade in chocolates, and could possibly be handled in the fall without inconvenience if the other goods were largely made up in the spring. The situation is at least hopeful enough to warrant the belief that there is no intrinsic need for an interminable succession of years with overtime work, wearing out the strength of one group of working girls after another. (Pages 55-56.)

4. Effect on Women's Wages.

Wherever the night work of women has been long enough prohibited to show any effect on their wages, statistical evidence tends to show that wages are not decreased but increased by the prohibition. In some cases there may be temporary decrease for a short time, before industry adjusts itself to the change; but after a short period the gain in the workers' efficiency and their consequent increase in output balances the curtailment of their working time. Women's wages are universally higher in the industries subject to the prohibition of night work than they are in the unprotected trades.

Moreover, even when regulation has resulted in a slight temporary decrease in wages, the majority of workers have willingly suffered the slight reduction, in order to gain the consequently increased health and leisure.

Verhandlungen des Deutschen Reichstags, 43. Sitzung, 8 May, 1878. [*Proceedings of the German Reichstag, 43rd Session, May 3, 1878.*]

Representative Motteler:

Our women workers themselves would gladly have night work forbidden by law just as the workers of both sexes in England were glad to have it legally abolished, even if a reduction of wages was at first involved, because they know well that in the end they will be benefited thereby. (Page 1163.)

Effect on Wages.—Germany.

Amtliche Mittheilungen aus den Jahres Berichten der Gewerbe Aufsichtsbeamten, 1893. [*Official Information from the Reports of the German Factory Inspectors.*]

There can be no doubt whatever, that the shortening of the daily toil of women in factories has a most beneficial effect upon the workers. They can attend better to their homes, cultivate their housekeeping and home-making powers.

As regards night work for women, the whole working population is in perfect accord in approving its abolition. The slight loss in wages to the working woman is not to be compared with the beneficial results on health, and on morals, which have been secured by the legal enactments prohibiting night work. (Page 148.)

Le Travail de Nuit des Femmes dans l'Industrie. Rapports sur son importance et sa réglementation légale. [*Night Work of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* Etienne Bauer. *La Réglementation Légale du Travail des Femmes en Allemagne.* Dr. Fuchs, *Factory Inspector, Baden. Jena, Fischer, 1903.*

When the change was first made, some women did, for a time, feel the loss in wages. But most of them soon found other work, and the total number of women in industry has assuredly not diminished; on the contrary it has increased. (Page 15.)

It can be said that productivity, and, consequently, the wages, per hour of work, have increased, partly because of improved machinery and partly owing to a greater speed among the workers. Even day workers have shared in the increased productivity and their wages have remained the same in spite of the shortened hours.

Piece workers almost everywhere earn as much as

they did before. In more than one establishment, piece work wages were adjusted so that there was no loss to the women. The early closing hour of Saturday has rarely made any difference in wages, whether because the workers work with more energy or because the employers have been willing to regard it as a full day.

There was often, formerly, a considerable reduction of wages in seasonal industries at the rush season. Now, as regulation has brought about a certain balance between length of hours in the rush and in the slack seasons, wages have attained a certain stability. So, too, the increased demand for hands has in one sense the effect of a rise in wages. (Page 15.)

The prohibition of night work for women coupled with the maximum working day has not brought any disadvantage either to employer or employee. Industry has overcome the first difficulties of the law easily and no objections to it that are of any weight are now heard. As for the wage earners, the change has constituted an important moral and hygienic gain without any corresponding material loss. The importance of the experience acquired should not be underestimated for the further advance of legislation for working women both in our own country and in other civilized states. (Page 18.)

Ibid. Interdiction du Travail de Nuit des Femmes en Allemagne. Dr. Max Hirsch.

The woman who passes all her evenings at outside work can hardly prepare dinner, accomplish the minor daily labors of her housework, and devote part of her time to her children. (Page 101.)

If there is even ground for supposing that the industrial activity of married women rarely brings in more than a sum that is sufficient to pay for the management of the house and the care of the children, it is certainly beyond dispute that the increase of wages obtained by overtime hours will not, in any manner, compensate for

the neglect of domestic duties.—It is necessary moreover for mothers to take account of the fact that they are without doubt able to place their children in safe places during the day, but not in the evening. (Page 102.)

Documents Parlementaires. Sénat, 22 Juin, 1891. Annexe 138. Rapport sur le Travail des Enfants, des Filles Mineures, et des Femmes dans les Établissements Industriels. [*Report on the Industrial Work of Children, Young Girls and Women.*] Senator Tolain.

The abuses of such a system are flagrant, and the women subjected to them complain bitterly. If, even, this burden of over fatigue brought some improvement in general welfare! But it does not, for the increased incidental expenses completely wipe out the increased payment of wages for overtime. And, if the employee is late in arriving at her working place the next morning as a result of exhaustion the evening before, she loses a part of her wages by fine. (Page 205.)

Labour Laws for Women: Their Reasons and their Results. Independent Labour Party. London, 1900.

Then as to the lowering of wages, though women's wages are deplorably low now, as a whole they have risen since the time of the first Factory Acts. Again, it is impossible to prove definitely either that they would have been higher or lower without regulation, but it is a very important and significant fact that if we want to instance the most horribly low pay, we have to go to the home industries, where the hours are absolutely unlimited. . . . While for the highest wages, and the wages which have steadily increased for the past fifty years, we go to the highly regulated textile factories, and the most skilled

branches of such work as bookbinding which is also subject to regulations. But the argument that it is the special legal restrictions on women's labour which keep down their wages, is completely settled by the fact where men and women work under practically the same conditions which are not differently affected by the law, the women's wages are lower than the men's. (Page 15.)

In fact the absence of limitation of hours is the very thing which the greedy or careless employer uses to screw more work out of his workers for the same pay, or to let his work be so disorganized that the women waste hours doing nothing, and then make up by overtime. This kind of overdriving most effectually lowers wages, for it exhausts the workers, and renders them unfit for their work, and they either do it badly and have to accept less pay, or become ill, and so lose employment. (Page 16.)

The primary evils of women's work, as we have tried to point out, lie in its casual and unsettled nature, and regulation tends to steady it, and so to make it more effective. . . . Though the limiting of hours . . . may not seem directly to raise her wages, it does so indirectly, because a rise in the standard of employment at one point really raises it all round; and it is not an accident but direct cause and effect that such regulations and good wages go together and *vice versa*. . . . It is because we believe that it is possible to get much nearer to the ideal of women's work which we have set before us, and because we find that the special laws for women have greatly improved industrial conditions hitherto, that we advocate their further extension in the future. (Pages 21-22.)

British Association for the Advancement of Science. 1902. Women's Labour. Second Report of the Committee . . . appointed to investigate the Economic Effect of Legislation Regulating Women's Labour.

. . . To the third question (whether legislation restricting women's labour has raised or lowered wages)

the answer (from the employers) was in almost every instance that wages had not been affected. Many were agreed that the legislation on the whole had improved health, and consequently efficiency. (Page 290.)

Factory Legislation Considered with Reference to Wages, etc. of the Operatives Protected Thereby. GEORGE HENRY WOOD, F.S.S. *London. Journal of the Royal Statistical Society. Vol. LXV. 1902.*

In summing up the impressions gathered from the foregoing review, we find that in one or two cases the limitation of hours of labour by Factory Acts has, for the time being, reduced wages, especially of time workers, but that as soon as the industry affected has become settled under the new conditions, wages have risen to a higher point than previous to the passing of the Act, and that this has been ascribed by competent observers to the increased efficiency of the operative and the increased intensity of the work. (Pages 305-306.)

During the era of Factory Legislation, that is, since the "Ten Hours" Act, and its extension, in a more or less modified form, to other industries than textiles, women's wages have risen by about 66 per cent, while the average increase for the United Kingdom is about 45 per cent. . . . But the chief point to be noticed is that factory legislation has not lowered wages, but has been accompanied by a decided and progressive increase. How far this legislation has *caused* this increase I am not prepared to say, but in so much as by reducing hours of labour, raising the minimum age of entrance to the factory and so insuring a certain amount of education, improving the sanitary and other accommodations of the worker, and regulating dangerous trades it has increased the standard of efficiency and encouraged a higher standard of living; it seems to have been a factor making for the increase. (Pages 308-309.)

We may now shortly summarize in a few words what we have seen. It is not certain that there is always a

direct connection between Factory Legislation and women's wages, but as a rule the effect of each limitation of the hours of labour has been to raise wages, though for a while they may have fallen a little. This usually operates through an increase in the efficiency of labour, which maintains or increases the former output in the lessened hours. While such an increased efficiency is maintained, the expenses of production are not increased, and no damage is done to foreign trade in the product of the industry affected. . . . All these effects have been for the general good,—women have shared in the progress of the past sixty years, and their wages have risen with men's but at a faster rate and more consistently. (Page 313.)

Women's Wages in England in the Nineteenth Century. Women's Industrial Council. London, 1903.

The calculations made by M. G. H. Wood, F.S.S. demonstrate the important fact of a steady rise in women's wages in those industries for which we have reliable information. It is significant that those industries are precisely those which have been most peculiarly influenced by the Factory Act. It was formerly in cotton that the hours were longest, the toil most strenuous, and the conditions most entirely subject to unrestricted competition; it was cotton that was first put under State control, it was the textile industry that was so seriously threatened by legal regulations that over and over again social reformers were accused of driving trade from the country, and were asked more in sorrow than in anger whether they realized that the regulation they wished to introduce would spell starvation to the children and women employed. Yet in textiles and most especially in cotton the improvement in women's wages has been extremely marked. Without wishing to claim that the rise in wages has been due to the operation of the Factory Act, for it is no doubt due to many complex causes, we

may point out that wages have certainly not been reduced under the Act, except quite temporarily here and there. In recent years, however, the line of opposition to factory regulation has taken up the wages argument on different lines.

It is more usual now to throw up the attack altogether as regards highly organized industries like cotton, and to say that legal regulation does no harm, has even been a success, in highly organized textile industries, where women are strong enough to bear it, but that in the non-textile, less fully developed industries, unless women may work at night, and overtime, and so on, they are at a great disadvantage, and will either be superseded by men or lose in wages. But I do not think there is any sign of women being superseded by men in non-textile industries, for the last census shows a larger increase in non-textile than in textile trades; and as to wages, surely the opponents of Factory Legislation cannot be allowed to use their arguments backwards and forwards as they choose. They used to say, you must not legislate for cotton, the workers are so poor they will starve; yet now that cotton has been regulated and the women, so far from starving, get higher wages than they used, the cry is that the cotton trade is so strong and the women so well paid, even the Factory Act cannot pull down their wages, it is on the other industries it falls so heavily. But it is rather significant that the longest regulated and most strictly regulated industry is the very one that shows so great a rate of improvement, and we need not be afraid that the status of laundry women, or even of home workers, will be injured by stricter regulation or stricter administration of the existing law; perhaps, on the contrary, their wages also will rise. (Pages 3-4.)

. . . As Mr. Wood's table shows, increasing strictness of administration has not hindered a considerable rise in wages. It is not certain that there is a direct connection between factory control and women's wages, but as a rule the sequel of each limitation of hours has been a rise of wages, though for a while there may have

been a slight fall. The rise is partly due to progressive restrictions on child labour, which have increased the demand for women's labour, and partly to an increase in the efficiency of labour, which maintains or increases the former output in the shortened time. There are certain manufacturing industries where the masters voluntarily work 9 hours or even 8 instead of 10, because they find they can get better work done. In these cases the reduction is not directly due to the Factory Act but to considerations of economic efficiency. (Pages 5-6.)

Bulletin of the United States Bureau of Labor Statistics, No. 117. April, 1913. Prohibition of Night Work of Young Persons.

The opinion of an author favorable to employers . . . will therefore be of value. He says: . . .

To my question as to whether the extra work performed at night did not mean a welcome increase of wages, they replied that that increase was absorbed in paying for the extra meal which is required during the night. (Pages 15-16.)

Bulletin of the United States Bureau of Labor, No. 80. January, 1909. Woman and Child Wage-Earners in Great Britain. Victor S. Clark, Ph.D.

Between 1830 and 1850 women's wages may have declined less than those of men because they were already near the subsistence level. An English authority, to whom these statistics are due, says: "Factory legislation has not lowered wages, but has been accompanied by a decided and progressive increase." It is not to be understood that factory laws are given as the cause of this increase, but they may have contributed to it by improving the efficiency of workers.

The wages of women in industries regulated by the factory acts are generally better than these in unregu-

lated industries. Among the best-paid women factory workers of England are the cotton operatives of Lancashire. This condition, however, is probably less an effect of the law than of the fact that the law happens to apply to a better grade of workers. (Pages 53-54.)

Trades may be mentioned, like some kinds of decorating and polishing, where neither machinery nor labor unions have influenced conditions, in which wages have risen as working hours grew fewer. But workers in these trades were benefited by the rising standard of living of their fellow-workers in other industries, and their rate of compensation was affected by the competition for labor caused by high wages in other occupations.

The statistics available indicate that the enactment of the successive laws shortening the hours of labor did not, in the particular industries affected, interrupt the progressive improvement of wages that has marked the last century. (Page 55.)

III. UNIFORMITY OF REGULATION:

1. Essential for Purposes of Enforcement.

The establishment by law of uniform opening and closing hours is indispensable in order to enforce both the legal working day and the prohibition of night work. Unless specified hours are set, before and after which the employment of women is illegal, it is almost impossible to enforce these laws. Unless the inspector remains on the premises it is difficult to tell when the workers are dismissed. But when opening and closing hours are fixed by law, violations can more easily be detected.

Bulletin of the New York State Department of Labor. September, 1906.

As the factory legislation of New York and other American commonwealths is derived directly or indirectly from England, it is necessary to look to English history for the source of the act in question. It appears that the first 10-hour law was enacted there in 1847 and proved so difficult of enforcement that Parliament three years later revised the law and provided that the stipulated ten hours of labor should be performed between 6 A. M. and 6 P. M. (Applicable to textile factories.)

"In this statute (of 1847) there was a fatal defect. It was not exactly provided when the hard won ten hours were to be taken—between the extreme limits of 5.30 A. M., and 8:30 P. M.,—so that opportunities were offered for evasion, which were only too freely embraced. The remedy was supplied by the F.A., of 1850 (13 and 14 Vict. c. 54) which definitely introduced the normal working day of 12 hours; 6 to 6, 7 to 7, with 1½ hours out for meals."—Palgrave's Dictionary of Political Economy, Article "Factory Acts".

Uniformity for Enforcement.—United States.

The first purpose of the prohibition of night work then is to prevent evasion of the ten-hour law. In the country where factory legislation has been most thoroughly tested, no woman for fifty-six years has been permitted to work after 7 o'clock in a factory proper; nor after 9 o'clock in a workshop, with certain minor exceptions. In this country four states besides New York prohibit the employment of adult women in factories at night —Indiana, Massachusetts, and Nebraska (where the prohibited hours are 10 P. M., to 6 A. M.), and New Jersey (where the prohibited hours are 6 P. M., to 7 A. M.) except in glass and canning factories. (Page 337.)

The history of factory legislation in England, its parent country, shows that in forbidding the employment of women in factories after 6 P. M. Parliament acted on the advice of the factory inspectors that a fixed schedule of hours was necessary to secure the observance of the ten hour law. (Page 438.)

Report of the New York State Commissioner of Labor, 1910.

The part of section 161 relative to the hours of labor of females from sixteen to twenty-one years of age, is one of the most difficult provisions of the law to enforce. The amendments made to this section by the last Legislature, which became operative on October 1, 1910, prohibiting work after 10 P. M. of any day, makes some improvement. It still provides that there shall not be more than ten hours' work in any one day "unless for the purpose of making a shorter work day of some one day of the week." The claim is always made, when employees are found working over ten hours per day, that it is for the purpose of making a shorter day of some one day of the week. This compels the inspector to prove the total number of hours per week, and makes it much more difficult to prove. The provision calling for ten hours' work between the hours of 7 A. M. and 10 P. M. allows a period of fifteen hours per day in which to perform ten hours'

work. Should a female between sixteen and twenty-one years of age be found working before 7 A. M. or after 10 P. M., it is not difficult to prove this fact in court. To prove the actual hours worked per day or week is almost impossible unless we secure the aid of the employee. The fear of losing their employment has deterred many employees from rendering assistance to the deputies of this bureau. (Pages 131-132.)

Report of the New York State Department of Labor, 1911.

During the year we have not secured evidence in any violation for more than ten hours per day, or more than sixty hours per week. In such cases we must rely on the testimony of the employee unless the inspector can prove that he has watched the employee for more than ten hours of any day, or sixty hours of any week. The reason why the employees do not furnish evidence regarding such violations is obvious. If they are working after 10 P. M. it is easy for the inspector to prove the violations. (Page 167.)

Preliminary Report of the New York State Factory Investigating Commission, 1912. Vol. I.

The present 60-hour law is not enforced and cannot be enforced because of the complicated and indefinite provisions relating to overtime, and the absence of a specified closing hour. To enact legislation limiting the hours of work without including a provision for a closing time will simply add another unenforceable provision to the laws of this State. The Commission believes that a statute can be so drawn, and such facts presented to the Court of Appeals, as to provide legally that no women may be employed in a factory building after a certain hour. Such provisions are contained in the laws of European countries, and experience shows that only in

that way can any provision regulating the hours of employment be enforced. (Page 97.)

This Commission is convinced that unless there is in the law some valid provision fixing a closing time, the law cannot be properly enforced. The difficulty is very apparent. The worker through fear of losing her employment, will rarely complain. It is useless, therefore, to look to her for active assistance. This principle has been applied successfully in this State in the case of children between the ages of 14 and 16. There is no valid reason why the same principle should not be extended to the women workers in the factory who play so important a part in the State's industrial prosperity. The interests of the State imperatively demand that its women workers be effectively protected. (Page 99.)

For children between 14 and 16 years of age employed in factories and manufacturing establishments the State has a model law. . . . The law is clear, definite, and what is of most importance, it is enforceable because of the closing hour therein prescribed. (Page 105.)

Preliminary Report of the New York State Factory Investigating Commission, 1912. Vol. III. Minutes of Hearing Held in City Hall, New York City, Dec. 19, 1911.

Mrs. Florence Kelley:

With regard to the hours of children, the law which provides that a child shall not work in a factory earlier than eight o'clock in the morning, or after five o'clock in the evening, is easily enforceable. It is the most easily enforceable provision with regard to working hours that is to be found in any law in this country dealing with that subject, because everybody knows that children must not be in factories before eight o'clock in the morning, and everybody knows that a child ought to be seen coming out of the factory a few minutes after five o'clock in the evening. There is no doubt in anybody's mind about the beginning and ending of the working day. The only

way in which it can be prolonged without being obvious to everybody is to cut a few minutes off the lunch hour, and even if that is done, it is perfectly clear, for they must have a full hour for lunch. There is no discretion lodged with anybody to shorten that, and, in that respect, New York reaches the high water mark of efficiency in formulating a statute for the protection of children in regard to the hours of work.

But as soon as a girl or boy reaches the sixteenth birthday, that advantage is lost, because the law restricting the working hours of women and minors over sixteen years of age has none of that clearness whatever. Our New York law, in regard to working hours of people over sixteen years of age, is sixty-four years behind the law of England, and about thirty-five years behind the law of Massachusetts, historically.

In England, since 1847, there has been a perfectly clear provision analogous to this with regard to the children. In the Textile Law women may begin to work,—any person over sixteen years of age may begin to work at six, seven or eight o'clock in the morning, but not on the half hour, and not before six o'clock; and they may work a total of fifty-four hours a week, but with perfectly clear closing hours at six o'clock, seven or eight. The English say frankly that is for the purpose of enabling the Factory Inspector efficiently to enforce those limits. (Pages 1595-1596.)

By Commissioner Dreier:

Q. What have you to suggest about the importance of the law regulating the hours for women? A. (Mrs. Florence Kelley): I have already suggested that we should copy literally the Massachusetts law, the most advanced law in the East, with regard to the working hours of women and children. It has the advantage of a perfectly clear provision, in the Textile Law, that women shall not work longer than fifty-four hours a week, and shall not work after six o'clock at night.

Q. You would extend that to all other industries? A. Yes.

By the Chairman:

Q. They have the fifty-four hour law in Massachusetts? A. Yes. Under that law they cannot work after six o'clock. They cannot work in one place and then go to another. They cannot work after six o'clock at night in any textile factory in that State.

Q. I understand the textile law only became law last year in Massachusetts? A. Yes, that is true. Before that they had the sixty-hour law, then the fifty-eight hour law, and now the fifty-four hour provision; but they had the great advantage of a perfectly clear closing hour for a number of years, which we have not.

By Commissioner Dreier:

Q. Have they to close the factories at certain hours—five, six and seven? A. No, in England they can close at six, seven or eight, but they have to begin at a correspondingly late hour in the morning. In Massachusetts they must, under all circumstances, dismiss all women at six o'clock. They must not work more than ten hours in one day, and not more than 54 hours in one week. It is as clear as our law for factory children.

Q. Do they prohibit night work in Massachusetts? A. In the textile industry they cannot work after six o'clock, and in all other occupations after ten. (Pages 1601-1602.)

Second Report of the New York State Factory Investigating Commission, 1913. Vol. I. Night Work of Women in Factories.

The prohibition of night work by women is not a new subject of discussion. In fact, the United States is the only great country having labor laws for women in which the prohibition of night work is not an important part of such laws. In the very first legislation to protect women from over-work, enacted in England in 1844, fixed opening and closing hours were set, before and af-

ter which work was prohibited. Through nearly a century which has since elapsed, the prohibition of women's night work has gone hand in hand in all European countries with the reduction of the length of the day's work, and a legal closing hour has been found an essential part of effective laws, necessary not only to protect health and morals, but also to assist in the enforcement of the daily limitation of hours of work. (Page 207.)

The examples of work, after and in addition to the day's employment, given above, show that the legal closing hour is necessary not only to provide an adequate rest period at night to protect the health and morals of working women, but also to control overtime work and thus to make possible the enforcement of the limitation of hours per day. The two things are practically inseparable. Unless the inspectors remain on the premises from start to finish, which is practically impossible, they cannot know the number of hours worked, and for various obvious reasons, when the law has been violated, the statements of neither employers nor employees can be relied on. But when definite hours are set before and after which work is illegal, a single inspection suffices to prove a violation.

The Report of the Federal Government states after detailed study of the question.

"The indications are strong enough to warrant the conclusion that overtime runs to dangerous limits in . . . manufacturing establishments in the absence of restrictive laws not only setting definitely a limit to the hours of labor per day and per week, but fixing the closing hours." (Page 208.)

Universal experience, the facts of which have in great part been recorded and published since the decision in the Williams case, proves that the fixed closing hour, after which all employment is prohibited, is the only known device to check late overtime work continued into the night. (Page 209.)

Uniformity for Enforcement.—United States.

Biennial Report of the Nebraska Bureau of Labor and Industrial Statistics, 1907-8.

The Nebraska law governing the employment of female labor is, in my judgment, weak and ineffective as it stands, although reasonably effective among the growing class of considerate employers. Its greatest weakness is in permitting ten hours' work to be performed by females between the hours of 6 o'clock in the morning and 10 o'clock at night. As applied to factory and shop workers, and to the girls and women employed in stores, the working hours should be limited between the hours of 7 o'clock in the morning and 7 o'clock in the evening. Six o'clock in the evening would be better. Some stores close at that hour every night in the week; and many others every night except Saturday.

The reasons for advocating an amendment in the law governing the hours within which female labor may be employed in this state are:

Six o'clock in the morning is too early for a developing girl or a sickly woman to go into a factory, a shop or a store; and 10 o'clock at night is too late an hour to keep female workers away from home. In cities, it means that such workers will get home not earlier than 10:30 to 11, because a majority of them live far from the business center. Temptation to "suspend the rules" is always offered in cities to tired and discouraged workers, men and women; and the latter must also face the wiles and insults of loafers and mashers when out alone late at night. Attacks on young girls returning from work at night are not infrequent; and since this is so, the state ought to protect them to the limit of its unquestioned power. By fixing a closer limit on hours for female labor, it will not be so easy as it is at present for the grasping and "driving" employers to defeat the plain purpose of the law. (Page 33.)

Uniformity for Enforcement.—United States.

United States Congress. Senate Document No. 645. Report on Conditions of Women and Child Wage-Earners in the United States. Vol. III. The Glass Industry. 61st Congress, 2nd Session, 1910.

It is the prohibition of night work rather than the establishment of a simple maximum day or week, which is the most effective restraint on overtime work in the glass industry, whether or not such overtime be illegal. (Page 225.)

In four States the law acts as a deterrent of night work for women. Massachusetts, New York and Indiana absolutely prohibit night work for all females. Ohio makes a prohibition for females under 18. When the prohibition is absolute, the enforcement of the law is a matter of comparative ease. When, however, the prohibition extends only to women below a certain age, as is the case in Ohio, its proper enforcement is much more difficult. It throws the decision as to age upon the judgment of the inspecting force, a decision which in the case of women is often a matter of considerable difficulty. (Page 387.)

Report of the South Carolina Commissioner of Agriculture, Commerce and Industries, 1912.

Labor Division.

With an actively employed industrial population in the State of some 75,000 people drawing annually upward of $24,000,000.00 in wages (these figures not including the women in mercantile establishments and offices), and owing to the fact that such laws as are now being enforced have been put into operation without injury to employers or industries by means of conservative process, I consider that the time has arrived when a constructive program of legislation, meeting the demands of the time, and benefiting employee and employer, can be entered upon, and I have taken the liberty of incorporating in this report several recommendations that in the light of my experience seem wise.

Uniformity for Enforcement.—United States.

I most earnestly recommend that provisions be made by law as follows:

. . . A law should be enacted also fixing a definite hour for starting the mill in the morning, for stopping for dinner, for starting after dinner, and for stopping at night, such stopping and starting times being definitely and clearly stated. The careful examination of circumstances surrounding dozens of complaints indicates that this matter can be handled satisfactorily in no other way. (Page 106.)

. . . The recommendations I have made look to measures designed to carry forward this work without injury to any industry, but with benefit to it and with benefit to the thousands of workers socially, morally and from the standpoint of health. (Page 7.)

As the law relating to hours of labor in textile establishments now stands, we have found it utterly impossible to enforce it, for the reason that there is no regularity at the different mills in starting and stopping their machinery.

We have had various reports from different parts of the State from mill operatives, who claim that the overseers and management of the mills compel them to work over ten hours per day, or sixty hours per week. (Pages 22-23.)

It is the inspector's opinion, after giving the matter careful study, that the only way to enforce this law is to have a law enacted, that each mill shall have a regular hour for starting the machinery in the morning, starting and stopping at dinner, and stopping at night. These hours to be posted in each room of the mill where operatives are employed. (Page 23.)

Report of the Connecticut Special Commission to Investigate Conditions of Wage-Earning Women and Minors, 1913.

If the hours between which women may be employed are definitely stated in a statute it can more readily be enforced. (Page 19.)

Uniformity for Enforcement.—United States.

Women in the Bookbinding Trade. MARY VAN KLEECK. *Russell Sage Foundation Publication. New York, 1913.*

. . . The facts presented in this volume about women employed in bookbinderies should afford a basis for effective agitation for the reforms most urgently called for. Of these, none seem to stand out more clearly than an effective prohibition on the employment of women at night. (Page IX.)

An enforceable and enforced law preventing the employment of women at night is needed not only because night work for women is objectionable in itself, but quite as much because the enforcement of New York's new nine-hour law will be impracticable unless there is a substantial portion of the twenty-four hours in which the women and young persons to whom it applies may not be lawfully employed at all. (Page X.)

A single inspection would be sufficient to give basis for prosecution if a girl under twenty-one were found working after 9 p. m.

. . . As soon as a woman passes her twenty-first birthday, the provision of law prohibiting the work of younger women after 9 p. m. or before 6 a. m., no longer applies to her. A girl twenty-three years old was employed to fill the boxes of a gathering machine in a magazine bindery. She worked from 8:30 a. m., to 5:30 p. m., with a half hour at noon. She began again at 6:30 p. m., and worked until midnight. After a recess of thirty minutes she continued her day's task until 5:30 a. m. This was a total working period of nineteen hours. Since the law permitted a twelve hour day, and did not prohibit employment of adult women during the night, a working day of twenty-four hours was legal for them. With the stroke of the clock at midnight, a twelve hour day ended and another twelve hour day might begin. In the case of this girl, not the long stretch of work, but the fact that fourteen hours instead of twelve preceded midnight, was a violation of the law. The legal provisions

would have been fulfilled had she begun work two hours later and stayed in the bindery until noon the next day.

These illustrations reveal the inadequacy of the law, its confusing exceptions and its failure to prohibit night work. (Pages 136-137.)

That a law prohibiting night work is vitally connected with the legal regulation of the length of the working day is, however, clearly demonstrated in the bookbinding trade. Permission to work at night in binderies means too often permission to prolong the day's labor. Few binderies (not more than two or three) have regular night shifts for women, who begin work in the evening without having worked during the day. In a far greater number, girls who work during the day stay on through the night hours. Probably Katie Mead had been working since 8 a. m., although the evidence presented to the court showed only the single fact that she was found at work at 10:20 p. m., without regard to the length of employment preceding that moment. Some of the actual instances of overtime work cited in this chapter demonstrate that the prescribing of a definite rest period during definite hours of the night is essential to prevent the joining together of two working days at the stroke of midnight. (Pages 163-164.)

That the factory inspectors recognized the connection between a prohibition of night work and the regulation of the length of the working day, is shown by the fact that this statement of the bad effects of prolonged periods of employment was used in their annual report [as long ago as 1887] as an argument in favor of their recommendation that the employment of any woman, adult as well as minor, after 9 p. M., be prohibited. (Page 165.)

The law regarding the hours of work of women ought to be amended for the benefit not only of bindery women but of all women at work in factories. Night work should be prohibited in order to assure an adequate rest period in every twenty-four hours, and to make possible

the strict enforcement of the fifty-four hour law. (Page 232.)

British Sessional Papers. Vol. XL. 1852-1853. Reports of Inspectors of Factories for Half-year ending 31st October, 1852.

. . . The existence throughout my district of a general and unreserved acceptance of the law as it now stands. This good feeling is exhibited, not in the mere conforming to regulations, but in the hearty appreciation and willing acknowledgment of the extended and salutary effects of the Factory Acts, and of the solid advantages which have been experienced both by the employers of labor and by the employed. Such opinions have been expressed to me by mill owners and by their hands. Both are equally sensible that that which was intended as a protection for the one has operated advantageously to the other. . . . There exists, however, but one opinion, that the law must be fulfilled, uniformly and exactly. Regularity of time at the beginning and end of the day, and at the intervals for meals, and abstinence from work during meal hours, must be strictly observed. The mill owners and the operatives alike insist upon the stringent administration of the law in regard to uniformity of time; and it has become an imperative duty that these points should be enforced, if necessary, with all the rigour of the law. (Page 53.)

British Sessional Papers. Vol. XXIV. 1866. Reports of Inspectors of Factories for Half Year ending October 31st, 1865.

Robert Baker.

Mr. Horner's opinions on the variable working and meal times hours are exceedingly valuable.

He writes thus: "It is obvious that with a power to work by relays of hands, and of giving meal times at various periods of the day and of changing the hours of work

and meals of every hand employed arbitrarily from day to day, no restriction of the hours of work could be enforced in the factories of artful men, regardless of the moral obligation of obedience to the law. Justice requires that, when the law interferes with the productive power of capital, all who are in the restricted trade should be kept to one rule as to time." (Page 82.)

British Sessional Papers. Vol. XXIV. 1867. Reports of Inspectors of Factories for Half Year ending April 30th, 1866.

A. Redgrave.

Uniformity of the hours of work, by limiting the duration of labor between 6 A. M. and 6 P. M., is the great feature of the Factory Acts; and every day's experience shows that this regulation requiring work (so far as concerns children, young persons and females) to cease at 6 P. M., is that which is really sought by the operatives. . . . In fact the only real factory solution consists in the adoption, as in the Act of 1864, of the Factory working day. (Page 8.)

British Sessional Papers. Vol. XXIX, 1876. Report of the Factories and Workshops Acts Commission.

Experience has proved that the only way to enforce a law against over-work is to provide not merely a maximum period of labor in the day, but maximum limits within which that period may be taken. . . . (Page XVI.)

Mr. Beadon says the remedy required by the shop assistants is a compulsory closing of all shops.

"I have been startled to discover that it is not the intervention of the law as to the labor of women and young persons akin to the Factory and Workshops Acts that is looked for by either employers or employed; but that what they expect and hope for is a law . . . which shall compel a positive closing of the shop at a

stated hour. . . . The employed ask for a positive closing because men want to be relieved, as well as women, from their present slavery, and the employers ask it on the ground of also wishing to be free at earlier hours and of competition in various shapes staring them in the face." (Page XXII.)

British Sessional Papers. Vol. XXIII. 1877. Reports of Inspectors of Factories for Half Year ending April 30th, 1877.

A. Redgrave.

The fixing and enforcement of a definite limit to each day's work in all industries and occupations was an experiment which both employers and workpeople regarded in many cases as likely to prove mischievous and impracticable, but I am glad to say that the experience we have had of the working of the Factory Acts Extension Act has clearly established that these doubts and fears have been altogether groundless . . . the application of the Factory Acts . . . has been most satisfactory and beneficial. Manufacturers themselves confess astonishment at what has been done in the way of regulating their hours of work, reducing the unreasonable demands made upon them by merchants, and enabling them to employ their workpeople under conditions at once more profitable and more healthful to all concerned. (Page 21.)

British Sessional Papers. Vol. XII. 1886. Report from Select Committee on Shop Hours Regulation Bill. Minutes of Evidence.

A. Redgrave, Chief Inspector of Factories.

116. Should you prefer . . . a general fixed closing hour?—I should prefer a general fixed closing hour as more effective.

117. The hour to be determined, as you prefer it by

the local authority?—Yes, upon the representation of their constituents.

118. But subject, of course, to a Parliamentary Maximum?—Yes, subject to a maximum. (Page 7.)

152. Then . . . the closing of all shops . . . would be not so much interfering with the labor of grown-up persons as regulating the hours at which shops should be open?—I think that in legislating for the closing hour of shops we must do it in the interests of the people who are employed in the shops; that is the view I take of it; it is entirely in their interests. (Pages 7-8.)

British Sessional Papers. Vol. XIX. 1896. Report of Chief Inspector of Factories for the Year 1895.

It is, I think, a matter for congratulation that some protection will in future be afforded to those engaged in laundries where the risks from machinery, fumes, deficient ventilation, etc., are certainly as great as in other works and where the manual labor is often arduous, but I foresee great difficulties in giving effect to the beneficent intentions of the legislature. One of the best safeguards in the Factory Acts disappears, I mean the enactment that work shall be between certain hours. A new departure in factory legislation appears and it is enacted that the period of employment may not exceed a certain number of hours. The difficulty, indeed, the almost impossibility of proving the actual number of hours that any person has worked, will, I fear, generally make conviction impossible. (Pages 18-19.)

British Sessional Papers. Vol. XI. 1900. Report of the Chief Inspector of Factories and Workshops for the Year 1898.

To visit laundries is but disheartening work in most cases. The law is so elastic that it is almost impossible

to see that its provisions as to hours are carried out. No adherence to the stated period on the abstract can be insisted on, as a substituted period can be worked on any day. Over and over again one hears complaints of long hours and late hours in laundries, and in nine cases out of ten nothing can be done as the legal limit has not been infringed. A woman *may* work from 8 in the morning till 11.30 at night for three nights a week, and for 30 days in the year, provided she is given an hour and a half for meals during that time. The law allows her to stand at a washtub for 14 hours in one day, or to stand in the heated ironing-room pressing heavy irons for that period. It is small wonder that accidents in laundries are not uncommon under such circumstances. In steam laundries, where machinery is being more and more used, it is disquieting to hear of the frequent accidents of the tops of fingers smashed in the rollers of the collar machines, and the more terrible accidents caused by the calenders, where a moment's inattention may result in the loss of all the fingers of one hand. . . .

The want of a definite short day in laundries is a frequent cause of complaint. (Pages 178-179.)

Industrial Democracy. Sidney and Beatrice Webb. *Vol. I. London, Longmans, 1898.*

The whole experience of the Factory Department proves that no limitation of the working day can really be enforced, unless there are uniform and definitely prescribed hours, before and after which work may not be carried on. (Page 349.)

The Case for the Factory Acts. Edited by Mrs. Sidney Webb. *London, Richards, 1901.*

It was probably with a perception of the need for more strictly defining the working day that Sir James

Graham in Feb. 1844 brought in a Bill which prohibited work by protected persons between 8 P.M. and 6:30 A.M., or between 7 P.M. and 5:30 A.M. This, allowing for meal times, made the working day, it is true, no shorter than it already was by law, but rendered it very much easier to enforce. (Pages 101-102.)

The Act eventually passed in 1844 maintained the working-day already in force, i. e. twelve hours work, between 5:30 A.M. and 8:30 P.M.

In the election of 1847 it (the 10 hours act) was made a test question. . . . One of the first Bills of the session was brought in by Fielden, passed by a majority of 78, and fixed the maximum working hours of women and young persons at ten, exclusive of one and a half hours meal times. No limits, however, were set to the working day within which the ten hours might be taken. This opened the way to numberless evasions. In 1850 a kind of compromise was effected, and a Bill was introduced according to which women and young persons were to be permitted to work ten and a half hours instead of ten, but only between 6 A.M. and 6 P.M. or 7 A.M. and 7 P.M., with, of course, as before, one and a half hours' meal times. This Bill was passed, and was perhaps the most important step yet taken. The inspectors, instead of having to inquire as to the working hours of individual persons, had simply to see whether they worked beyond the legal working day. (Pages 104-105.)

British Sessional Papers. Vol. X. 1901. Report of the Chief Inspector of Factories and Workshops for the Year 1900.

The existence of an exemption (in the fish-curing trade) has rendered the administration difficult and uncertain in result. It is noteworthy that in this trade, in which overtime is permissible to women on sixty occasions in the year, I have never found overtime notices in use in any workshop. The occupiers do not find them necessary. Starting with an exemption for one process,

that of "gutting, salting, and packing," the industry would seem to have shaken itself gradually free from control, until now we find fish that have been in salt for several weeks dealt with as perishable articles. Given plenty of time and unsuitable surroundings, every article of food is to some extent perishable, and when a herring has been kept in salt for some weeks there is no reason for working on it at night except the reason that the day will bring other work, and in this seems to lie the cause of much of the late and irregular hours of the fish-curing trade. . . .

One of the evils to which this want of regulation leads is the practice of employing the same person in the same day in processes controlled by the Acts, and in those outside their control.

. . . In another case in which a curer had a factory and also a kippering shop in the same town, the workers went from one to the other, always sure of their full day's work in the factory, followed very often by five or six hours' work in the other shop. (Pages 388-389.)

British Sessional Papers. Vol. XII. 1903. Report of the Chief Inspector of Factories and Workshops for the Year 1902.

After six years' experience of the effect of the present regulation, it is impossible not to feel greatly depressed by the result; the elasticity of the law has tendered to encourage rather than check these unsettled hours. (Page 174.)

The innumerable loopholes and subterfuges which it affords to a sharp and unscrupulous employer places his more stupid or more scrupulous competitor at an unfair disadvantage, which is preventable, and therefore should be prevented. The broad, clear limitations, easily understood and capable of being exactly and thoroughly enforced, which apply to other industries under the Act,

impose the same obligations and provide the same protection for all alike. This is impossible where regulations cannot be properly enforced and can be continually evaded with success. (Page 174.)

Women in the Printing Trades. Edited by J. RAMSAY MACDONALD. *London, King, 1904.*

Whether or not the law can be made sufficiently elastic to allow of greater freedom with regard to period of employment, overtime and night work, raises difficult questions. No doubt it would be an advantage both to employers and employees, if the law could be made so elastic, but the difficulty of effective inspection would be so great as to outweigh any possible advantage. The early history of factory legislation and its working shows clearly that the intention of the Act was defeated because employers could so easily evade its clauses. At present it is known to a factory inspector that a factory that opens at 6 always opens at 6 and closes at 6, unless notice has been given that overtime is being worked. If, however, an employer were free to open his factory at 6 or 8, as occasion demanded, and close accordingly, the difficulty of administration would obviously be greatly increased.

The same point arises with regard to night-workers. It is quite impossible to know among a staff of night-workers who has been working all day and who are *bona fide* job hands. Such cases as the following, which was the cause of a prosecution, would occur far more frequently.

"Twenty-four girls who were employed at a neighbouring printing and bookbinding firm, worked for twelve hours at that firm on Friday, November 20th. They then went straight to the Carlyle Press, and worked all night, going back to their regular work at the other firm at 8 the next morning. The forewoman employed by the latter firm said that she did not know these girls

had been working all day, or she would not have admitted them." Printers' Register, Jan. 12th, 1892. (Page 92.)

Rapports sur l'Application pendant l'Année 1899 des Lois, réglementant le Travail (2 Nov. 1892 et 12 Juin, 1893). [*Reports of the French Factory Inspectors on the Working of the Factory Laws of Nov. 2, 1892, and June 12, 1893.*] *Paris, 1900.*

Inspectors are not armed to resist the excessive, even though legal demands of employers, who, with their repeated claims for exemptions which they call temporary, succeeded actually in freeing themselves permanently from the obligations of the law, with the result that they bring about and perpetuate that condition of partial unemployment of which workers rightly complain.

Demands for exemption have increased steadily since 1895, and, with rare exceptions, they have not been of that emergency nature which was contemplated by the law. (Page 32.)

I have no new remarks to make on this subject of overtime; it is only possible by what is essentially fraud. . . . The privilege given to employers to infringe temporarily the prohibition of night work continues to be essentially delusive, and perpetuates abuses which it is almost impossible to reach or to repress. (Page 112.)

It is almost impossible for employers in those industries which permit work to go on until 11 P. M. not to break the law, for it is always in times of rush work, that the necessity for overtime arises, yet the workers have been at work since early morning. . . . Evening overtime agrees ill with the prohibition of more than 12 hours work, for, as I have said, overtime is always an emergency and the women who have already worked their full day do the overtime. Others are not to be found. (Pages 147 and 148.)

Supervision is extremely difficult, not to say impossible, for, if the inspector goes after 9 P. M. the door is

not opened. It has, indeed, only been by strategy that inspectors have succeeded in proving violations of the law, and strategy is not compatible with the dignity of an inspecting body. (Page 148.)

In general, the personnel retained for overtime are the experienced women. . . . From the time when the law went into effect the inspectors have never known of a different set of workers being employed in the late evening hours; it is always the regular staff that is burdened with this supplementary time.

As to control, it is always imperfect. (Page 195.)

Control of evening overtime is extremely difficult, not to say impossible; we must have some effective means of preventing fraud, or, what is more to the point, of making it impossible for the employers to commit fraud. (Page 268.)

Bulletin de l'Office du Travail. [*Bulletin of the French Labor Office.*] *Vol. VII. 1900.*

The makers of the law thought it necessary to confer on certain industries called *Seasonal*, permission to work overtime until 11 P.M. . . .

This year, as in preceding years, the labor inspectors are unanimous in demanding the prohibition of evening overtime work.

Will the suppression of evening overtime work be an exceptionally difficult measure to enforce and will its suppression disturb those industries which now have the benefit of it? The facility with which certain establishments have voluntarily dispensed with it should dissipate all fears on this subject. According to the report of the divisional inspector of the first district, residing at Paris, M. Laporte, most of the large fur-making establishments have given up the use of night work. This year, he said, thanks to the excellent measure of prohibiting all infraction of the seventh-day rest to employers not closing at 9 P. M., all the furriers have so organized their work that the legal twelve hours of work

are completed by 9 P. M. Moreover, they have declared themselves to be satisfied with this new organization. (Pages 918-919.)

Rapports sur l'Application pendant l'Année 1899 des Lois réglementant le Travail. (2 Novembre, 1892, et 12 Juin, 1893.) [*Reports of the French Factory Inspectors on the Working of the Factory Laws of Nov. 2, 1892, and June 12, 1893.*] *Paris, 1900.*

The 4th article of the law Nov. 2nd, 1892, states that all work between 9 P.M. and 5 A.M., shall be regarded as night work. Between 5 A. M. and 9 P. M. there is then a stretch of 16 hours, within which limits a day of 11 hours, or even of 12 hours (when the law authorizes this prolongation) can easily be effected.

It is, for instance, enough to avoid infraction of the law, to begin work at 8 A.M. and stop at 9 P.M., with one or two hours rest. However, the law has conferred certain exemptions on certain industries, termed "Seasonal" which are permitted to work until 11 P.M.

The Commission Supérieure has, a number of times, pointed out the inconsistency of permitting this exemption from the prohibition of night work, while the length of the legal working day is not to exceed 12 hours.

This year, as before, the factory inspectors are unanimous in demanding the suppression of evening overtime. (Veillée) Their complaints are given below. The inspectors of the 5th, 6th, 7th and 10th districts express themselves as follows on this point:

"We are of the opinion that all work after 9 P.M. should be absolutely forbidden for women in industry. The law of Nov. 2, having admitted this principle is faulty in allowing any exemptions. The suppression of Art. I in the decree of July 15, 1893, would be an advantage on hygienic as well as moral grounds. Moreover, day work is preferable to evening work. In prohibiting this overtime the working day of more than 12

hours is at one stroke abolished." (M. Jarackzewski, Lille.) (Pages XXXVII-XXXVIII.)

"An honest interpretation of the law implies the prohibition of all work after 9 P.M. With a day beginning at 8 A.M. and ending at 9 P.M. with an hour for rest, we have 12 hours of actual work without overtime. With this system, inspection is easy: the working-women also, can go home at a fairly reasonable hour.

"If exemptions are made, allowing work to continue until 11 P.M., it must either be assumed that the employers call in a separate shift, (which is neither practicable nor possible) or else a tacit acknowledgment is made that the 12 hour legal limit may be exceeded.

"The inspectors insist on having the 12 hour limit observed, but the employers retort that it is useless to grant them the privilege of overtime if they are not to use it." (M. Blaise, Rouen.) (Page XXXVIII.)

"The inspectors of the 7th district report, as in preceding years, the difficulties which they met in inspecting workrooms where overtime is carried on. The exaggerated slowness with which doors are opened suggests the possibility of work and workers being smuggled out of sight. (M. Giroud, Nantes.) (Page XXXIX.)

"Difficulties of inspection are always the same: first to have the doors opened; next, to find the workwomen. As a rule, the workrooms are empty when the inspector enters." M. Lagard, Marseilles. (Page XXXIX.)

Bulletin de l'Office du Travail. [*Bulletin of the French Labor Office.*] *Vol. IX. 1902. Travail de Nuit et Repos Hebdomadaire.* [*Night Work and Weekly Day of Rest.*]

A certain number of industries, such as sewing and dress-making, embroidery and lace manufacture, the manufacture and finishing of hats, etc., are authorized to continue work for 12 hours per day during 60 days per year, and to work until 11 o'clock at night during this period.

The labor inspectors complain of this because it is almost impossible for them to discover whether different workers are employed for evening overtime shift. Nor can they be certain that the legal working hours are not exceeded on those days when the work continues until 11 P.M. instead of closing at about 7 or 8 o'clock.

The *Commission Supérieure du Travail* can only point out once more the disadvantages of this legal provision, which makes possible a duration of work extending to 14 hours per day, without the possibility of any effective control by the factory inspector.

On this subject the inspector of the eleventh district said:

"We have often pointed out that there is a contradiction between the authority to continue work until 11 P.M. and the provision that the 12 hours of work shall not be exceeded. This twofold exception does not seem capable of enforcement. The interval between 6 or 7 o'clock in the morning and 11 o'clock at night is too long not to be favorable to fraud, difficult to detect." (Pages 686-687.)

Proceedings of the Second Regular Meeting of the Executive Committee of the International Association for Labor Legislation. Cologne, 1902.

Prof. Raoul Jay:— "Unfortunately French legislation still permits certain exceptions to the prohibition of the night work of women. During two long sessions the French section studied these exceptions, one by one. We invited to these sessions those who were most directly interested in the question as employers, workers and labor inspectors. At the close of the second session the section unanimously voted, to demand the abolition of all the exceptions permitted by the law of 1892 to the prohibition of the night work of women in industry. M. Laporte, the eminent divisional inspector of the first department—after informing himself anew by the inquiries among the inspectors whom he directs, after making inquiry as to

what industries in his territory still employed women at night, and how they might be replaced, did not hesitate to propose and to vote for the abolition of all exceptions." (Pages 30-31.)

Le Travail de Nuit des Femmes dans l'Industrie: *Rapports sur son importance et sa réglementation légale.* [*Night Work of Women in Industry. Reports on Its Importance and Legal Regulation.*] *Preface by* ETIENNE BAUER. *Jena, Fischer, 1903.*

The prohibition of night work of women in industry is indissolubly connected, from the technical point of view, with the regulation of the maximum working day and overtime hours of labor. (Page VIII.)

It clearly follows from the reports of these countries that the exceptions to the prohibition of night work by women have resulted in abuses and violations of the law and have thus completely failed to accomplish their object, which was to facilitate the operation of the law.

It results from the preceding analysis of international legislation and the inquiries of investigators that, except perhaps in industries in connection with sea fisheries, the authorization of night work by women does not constitute at all an economic necessity. On the contrary, the example of England proves that, in authorizing overtime to a very small extent, the desired elasticity is given to certain branches of industry. Thus, many exceptions in the law, previously permitted, have been successfully removed. (Page XXXI.)

Uniformity for Enforcement.—Germany.

Die Herabsetzung der Arbeitszeit für Frauen und die Erhöhung des Schutzalters für Jugendliche Arbeiter in Fabriken. (The Reduction of Women's Working Hours and the Raising of the Legal Working Age for Young Factory Employees.) Dr. August Pieper *and* Hélène Simon. *Schriften der Gesellschaft für Soziale Reform, Heft 7-8. Jena, Fischer, 1903.*

Legal recognition of overtime offers a dangerously easy method of evading the law. In many cases the benefits of a maximum working day are completely nullified by exemptions, and in all cases the already difficult task of inspection is rendered doubly difficult. "No laws, perhaps are so often disregarded as labor laws, and every legal exemption enhances the difficulty of discovering infractions."

The English government held it to be not only more advisable, but also more profitable, to put a stop to all overtime "except in cases of national emergency". And the English inspectors oppose it unconditionally on the basis of their past experience. One of them says: "Legal permission of overtime is in my opinion a public scandal." (Page 117.)

In Germany . . . since 1893, there are employers who, after the enactment of legal restrictions upon overtime gave it up altogether and have given assurances that their businesses have remained prosperous. "Many employers (1894) put a stop to overtime, because it had absolutely no advantages." Moreover, the objections made to giving up overtime have been refuted by experience. Many of the German inspectors . . . have expressed their conviction that overtime in factories should be completely abolished and that industry would be able to adapt itself without detriment to such a regulation. (Page 119.)

Uniformity for Enforcement.—Germany.

Die Gesetzliche Regelung des Bäckerschutzes. [*Protective Legislation for Bakers.*] DR. HANAUER. *Fortschritte der Medizin, Berlin, September 23, 1915.*

It is to be hoped that the perfection of technique will succeed even without night work in supplying customers early in the morning with bread equal in quality to the present supply. By means of legislation the universal prohibition of night work in the baker's trade can be brought about. . . . In Norway and Finland night work in bakeries is already completely prohibited and in Italy work in bakeries is prohibited between 9 P.M. and 4 A.M. (Page 1134.)

2. Essential for Justice to Competing Employers.

Uniformity of restriction is essential also for justice to competing employers. Employers are not easily able to abolish night work even if convinced of its disadvantages, while their competitors are under no obligation to do so. The legal prohibition of women's night work, therefore, not only checks the unscrupulous employer, but makes it possible for the humane and enlightened employer to abolish night work without fear of underbidding competition.

Bulletin of the United States Bureau of Labor, No. 91. November, 1910. Working Hours of Wage Earning Women in Chicago.

The need of keeping these neighborhood stores open evenings on half of the nights each week seems to be due rather to competition between stores than to the real needs of the customers. Both managers and girls reported that not many years ago the stores were open every night except one. Now they are closed three nights a week. The owner of a large store in one neighborhood reported that he does better business now than he did under the longer hours, and if all the stores were obliged to close earlier he would be glad to close, for he could so arrange the hours that there would be no inconvenience to him. (Page 895.)

British Sessional Papers. 1834. Vol. XX. Factory Inquiry Commission. Supplementary Report.

Queries addressed by the Central Board of Commissioners to Manufacturers.

Thomas Bannerman (cotton spinning):

Justice to Competing Employers.—Great Britain.

A36.—A total abolition of night work in cotton spinning and in every other manufacture, where it is possible, would, in our opinion, be for the interest of the respective trades and good in a moral point of view. Those manufacturers who practice night work do injury to others, and gain only for themselves a little temporary relief at the expense of a public scandal. A.I. (Page 5.)

Peter Bogle (cotton spinning.):—

A.36.—The prohibition of night work would give us great satisfaction as it would put trade on an equal footing. A.I. (Page 130.)

George Mackeroy for James Oswald and Co., (cotton spinning):—

A.36.—I believe the effect would be beneficial as it would put the whole trade upon the same footing. . . . A.I. (Page 139.)

Henry Dunlop (cotton spinning):—

It would be a considerable advantage to those proprietors who do not want to work during the night. A.I. (Page 146.)

Joseph Wood (spinning):—

A.27.—I have no objections to an act of Parliament (provided it be strictly enforced) by which all mills would be obliged to work the same length of time, which, in my opinion, would be a great advantage to the trade generally. C.I. (Page 161.)

Rooth and Mayer (spinning and weaving):—

A.36.—It would prevent night workers from gaining a pecuniary advantage over those more considerate and humane manufacturers, who abstain from night working on the grounds of the health and morals of the people. D.I. (Page 173.)

Henry and Edmund Ashworth (cotton spinning):—

A.36.—The effects produced upon manufacture by a prohibition of night-working, providing that a suitable allowance of time for day labour was permitted, would be an increase of profit for the manufacturer, who is accustomed to carry on his work only during the day, by putting an end to this unequal competition.

Such a prohibition would remove a foul stigma which at present overhangs the whole of the trade, owing to the practices of a few individuals in it; prevent an unnatural, unwholesome, and demoralizing practice; and would probably lead to an extension of mills, and thereby provide day labour for those unfortunate work people, who have heretofore been compelled to seek a disreputable occupation in night working. D.I. (Page 279.)

The Labour Problem. GEOFFREY DRAGE, M.P. *London, Smith, Elder, 1896.*

The only other questions with regard to the usual hours of labour to which attention need be directed are those of work at night and of work on Sunday. (Page 93.)

The system is chiefly regarded as a grievance in the baking trade, in which the work is carried on both in England and Ireland to a great extent by night. The workmen in this trade contend that the unavoidably unfavourable conditions of their trade are aggravated by the practice of working at night, and that night work is unnecessary, since bread, even when sold new, is seldom eaten until it is at least twelve hours old. The employers, on the other hand, consider that night work is necessary so long as any establishments are worked by night, because it is impossible for those worked by day to compete with them. They maintain that its abolition would mean the closing of many wholesale bakeries, which must bake at night in order to let the retail dealers have the bread for sale early the next day. Organized effort on the part of the men has to some extent lessened the prevalence of night work, but the employers are of opinion that its total abolition can only be obtained by legislation. (Pages 93-94.)

British Sessional Papers. Vol. X. 1901. Report of the Chief Inspector of Factories and Workshops for the year 1900.

. . . A lack of loyal adherence to reasonable hours of employment by many laundry occupiers increases the difficulty for those who make the attempt in real earnestness. Many employers gladly welcome further regulation as a means of organizing and controlling their workers. "What is the use of my making the effort to so organize my work that the laundry shall close at 8 P.M. like other reasonable workplaces do," said a disheartened employer; "all the neighboring laundries are open until nine, ten, or even eleven o'clock, and my women find it suits their irregular habits to go and work in these places after they leave my premises; they are then too tired out to arrive at my laundry till 9.30 or 10 next morning. If we all had to keep the same rules and close at the same time, the law would work fairly; as it is I must just scramble on with the others in the stupid expensive old way." (Page 385.)

Documents Parlementaires. Chambre des Députés. 10 Juin, 1890, Annexe 649. Rapport sur le Travail des Enfants, des Filles Mineures at des Femmes dans les Établissements Industriels. [*Report on the Industrial Work of Children, Young Girls and Women.*] DEPUTY R. WADDINGTON.

Spinners who do not operate at night declare that night work is as ruinous to the health as it is disastrous to the morals; yet they may be forced by competition to resort to it; even while disapproving it. (Page 1087.)

. . . The temptation to increased production . . . makes it hard for the man who desires to work under normal conditions, and it is more difficult for him to compete. However much he may dislike night work, little by little he is drawn into it. Today he is opposed

to it; tomorrow he is hesitating, and soon he will imitate his less scrupulous rivals. Night work if not prohibited by the law will spread little by little into all manufacturing countries where the different branches of the textile industries are found; over production will bring on crises which will prove ruinous to the manufacturer, and tragic for the workers who have deserted the farms to earn the higher pay offered by the mills. (Page 1088.)

Rapports présentés à M. le Ministre de Commerce, de l'Industrie, des Postes et des Telegraphes par les Inspecteurs du Travail. [*Reports of the French Factory Inspectors.*] *La Question de l'Interdiction du Travail de Nuit. Paris, 1900.*

The increasing strenuousness of modern life and the intense nervous energy demanded by modern industry must not be forgotten. The workman must apply an ever greater concentration to his work. . . . Why work at night? Hygienists declare it dangerous to health. Business men recognize that it is but feebly productive; it promotes over production and lowers prices. . . . What reasons are there for retaining it . . . only one, the frenzied competition which producers carry on with one another. . . . (Page 85.)

Le Travail de Nuit des Femmes. [*Night Work for Women.*] Georges Alfassa. *La Revue de Paris, Sept.-Oct., 1904.*

Many employers are compelled by competition to work at night, even though complaining that it is not actually profitable to them, indeed not profitable at all, for it tends to over production and stagnation, with the resulting misery of unemployment for the workers. Thus the sad paradox is realized of workers contributing under compulsion to future lack of work by performing labor that is materially and morally ruinous to them. (Page 373.)

Royaume de Belgique. Bureau de Travail. Le Travail de Nuit des Ouvrières de l'Industrie dans les Pays Étrangers. [*Belgian Bureau of Labor. Night Work of Women in Industry in Foreign Countries.*] MAURICE ANSIAUX. *Brussels, 1898.*

SWITZERLAND.

The very manufacturers who would not on any account, even if they had the chance, resume the system of night work in the case of women, do nevertheless frankly and clearly insist upon its being prohibited to all alike.

One of them looks upon the legal prohibition as a measure of protection for right minded employers against any competitors who might be less scrupulous. In a word, the idea is to forestall and repress *Schmutzkonkurrenz*—unfair (literally "dirty") competition, which stops at nothing in the effort to gain its ends, and which might occur in Switzerland as well as elsewhere, in spite of the good spirit there prevalent. (Page 83.)

Amtliche Mitteilungen aus den Jahres-Berichten der Gewerbe-Aufsichtsbeamten, 1889. [*Official Information from the Reports of the German Factory Inspectors, 1889.*]

Mülhausen:

Two factory owners who did not work at night complained bitterly because the laws permitted night work (in wool-carding). Their reasons were the technical disadvantages of night work; also its general disadvantages to the workers. . . . All, indeed, agree that it was desirable that night work should be discontinued. It was however held by some that competition forces them to it, that even a national law would not be sufficient; there would have to be international agreement. The fact that many employers did not use night work, and were satisfied with a lesser product, was perhaps overlooked. Night

work in the form of overtime is frequent, sometimes running far into the night. The workers, both men and women, submit most unwillingly to this overwork, especially the married women, and some effort is made to relieve them from it. (Page 90.)

Die Gewerbliche Nachtarbeit in der Praxis. [*Industrial Night Work in Practice.*] PAUL SCHULTZE. *Jahrbuch für Gesetzgebung, Verwaltung and Volkswirtschaft. Vol. 38, 1914.*

The restriction of night work is not well possible by any other than legislative methods, because the manufacturer is hindered by reasons of competition from going ahead independently and the demands of the public, so far as they affect the question, are not in all cases based on the necessary insight. (Page 304.)

PART SECOND

LEGISLATION PROHIBITING EMPLOYMENT OF WOMEN AT NIGHT.

I. THE AMERICAN LEGISLATION.

Massachusetts.

First enacted in 1890, Chap. 183, amended by Acts of 1907, Chap. 267, now embodied in Acts of 1913, Chap. 758.

"No person, and no agent or officer of a person or corporation, shall employ a woman . . . in any capacity for the purpose of manufacturing between ten o'clock at night and six o'clock in the morning. No person, and no agent or officer of a person or corporation engaged in the manufacture of textile goods, shall employ a woman . . . before six o'clock in the morning or after six o'clock in the evening."

Acts of 1917, Chap. 342, Sec. 24 (summarized).*

The state board of labor and industries is directed to appoint a committee of five persons, commissioner of labor, chairman. Any employer may set forth to the state board of labor and industries or to the committee that any labor law interferes with work which he is doing and which is required by the emergency arising from the war, and may ask for a permit suspending operation of such law as to his work or establishment. After hearing, the committee may grant permit, subject to restrictions it deems proper; permit to be revocable and to become void sixty days after ending of the war. In urgent cases, before committee can be assembled, commissioner of labor may grant permit for not more than 72 hours.

* For number of exemptions granted in 1917, see Page A 16, ante.

INDIANA.

Enacted in 1894, embodied in Anno. Stat. 1908, S. 8021, etc.

"No person or corporation or officer or agent thereof, shall employ any woman . . . in any capacity for the purpose of manufacturing, between the hours of 10 o'clock at night and 6 o'clock in the morning."

NEBRASKA.

First enacted in 1899, Chap. 107, embodied in Rev. Stat. 1913, Sec. 3564, amended by Acts of 1915, Chap. 71.

"In metropolitan cities, in cities of the first class having more than 40,000 and less than 100,000 inhabitants, in cities of the first class having less than 40,000 and more than 25,000 inhabitants, in cities of the first class having more than 5,000 and less than 25,000 inhabitants, no females shall be employed in any manufacturing, mechanical or mercantile establishment, laundry, hotel or restaurant, office, or by any public service corporation in this State more than nine hours during any one day or more than fifty-four hours in one week. The hours of each day may be so arranged as to permit the employment of such female at any time from six o'clock a. m. to ten o'clock p. m., but in no case shall such employment exceed nine hours in any one day: *Provided, however,* such female shall not be employed between the hours of 10 p. m. and 6 a. m.: *Provided, further,* public service corporations may employ females between the hours of 10 p. m. and 6 a. m."

NEW YORK.

Enacted in 1913, Consol. Laws, 1909, Chap. 31.

Sec. 93b. "In order to protect the health and morals of females employed in factories by providing an adequate period of rest at night no woman shall be employed

or permitted to work in any factory in this State before six o'clock in the morning or after ten o'clock in the evening of any day."

Sec. 161.2,

"No female employee over the age of 16 years shall be required, permitted or suffered to work in or in connection with any mercantile establishment . . . before seven o'clock in the morning or after ten o'clock in the evening of any day."

PENNSYLVANIA.

First enacted in 1913, No. 466, Sec. 4.

"No female shall be employed or permitted to work in any manufacturing establishment before the hour of six o'clock in the morning, or after the hour of ten o'clock in the evening of any day: *Provided*, that this section shall not apply to managers, superintendents, or persons doing clerical or stenographic work."

OREGON.

Orders of Industrial Welfare Commission, pursuant to authority granted by General Laws 1913, Chap. 62. Effective September 1, 1916.

Order No. 7.

"6. No person shall employ any women in the City of Portland in a mercantile establishment, other than cigar stands in hotels and confectionery stores, later than 6:00 o'clock p. m."

Order No. 8.

"6. No person shall employ any woman in the State of Oregon, outside of the City of Portland, in a mercantile establishment other than cigar stands in hotels and confectionery stores, later than 8:30 o'clock p. m."

Orders No. 9 and 10 (Summarized).

"7. No person shall employ any woman in the City

of Portland or in the State of Oregon in any manufacturing establishment later than 8:30 o'clock p. m."

Orders No. 13 and 14 (Summarized).

"7. No person shall employ any woman in the City of Portland or in the State of Oregon in any laundry establishment later than 8:30 o'clock p. m."

DELAWARE.

First enacted in 1917, Revised Code, 3135, Section 35, Chap. 90, Art. II.

"No female shall be employed or permitted to work in any mechanical or manufacturing establishment, laundry, baking or printing establishment, office, or dressmaking establishment between the hours of 10 o'clock P. M. and 6 o'clock A. M. of the following day. The provisions of Sections 35 to 43, inclusive, of this Chapter shall not apply to females employed in the canning or preserving of perishable fruits and vegetables."

WISCONSIN.

Orders of the Industrial Commission, June 29, 1917.

Order No. 1.

"Night work for women in and about manufactories and laundries in this state is hereby forbidden. Night work is declared to be work performed between the hours of 6 P. M. of one day and 6 A. M. of the following day."

Laws Prohibiting Nightwork of Women in Mercantile Establishments, etc., Are Found in:

SOUTH CAROLINA.

Enacted in 1911, No. 83, Sec. 1, amended in 1913, Chap. 262.

"Female employes (i. e. in mercantile establishments), shall not be allowed to work later than the hour of ten o'clock p. m."

CONNECTICUT.

Enacted in 1913, Chap. 179.

"No female over sixteen years of age shall be employed in any such establishment (i. e., mercantile establishment) after ten o'clock in the evening."

Enacted in 1917, Chapter 300, Section 1.

"No public restaurant, café, dining room, barber shop, hair dressing or manicuring establishment or photograph gallery shall employ . . . any woman, between the hours of ten o'clock in the evening and six o'clock in the morning."

Act of 1917, Chap. 326. (Summarized.)

The governor by proclamation may modify or suspend labor laws for definite specified periods during the war. Such power to be exercised only on request of the Council of National Defense when essential to national defense.

II. THE FOREIGN LEGISLATION:

The British law of 1844 was the first statute in any country limiting the hours of labor for adult women. It provided for all women employed in textile mills a period of rest at night between 8:30 p. m. and 5.30 a. m., and it restricted work to twelve hours in one day. Thus the first legislation for women prohibited their employment at night and fixed opening and closing hours. By successive enactments between 1847 and 1907 further restrictions were introduced (see appended table).

Next after Great Britain, the night work of women in factories before and after specified hours was prohibited by law in the following countries:

Switzerland—Federal Law of 1877.
Austria—Industrial Code of 1885.
Netherlands—Law of 1889.
Germany—Industrial Code of 1891.
France—Law of 1892.
Italy—Law of 1902.

In addition to the legislation of these countries, international action followed. Beginning with the International Congress of Hygiene and Demography in 1887, various international meetings passed resolutions declaring that the prohibition of industrial night work for women was necessary to preserve their health and morals. In 1901 the International Association for Labor Legislation determined to investigate the extent and effects of industrial nightwork for women in the various countries and the results of prohibiting such nightwork by law. Following this investigation and upon recommendation of the International Association, the Federal Council of Switzerland called a conference of the European powers to meet at Berne, Switzerland, on Sept. 26, 1906. Representatives of fourteen European governments met and signed the International Convention or agreement given in full below.

Between 1906 and 1913 all the powers represented

with the single exception of Denmark ratified the convention, after extended legislative debates, and in many cases they provided a longer period of rest at night than required by the international agreement. It went into effect on January 14, 1912, for all the signatory powers except Spain, where its operation was postponed two years, and for textile mills eight years.

The appended table gives the list of signatory states and the main provisions of their national legislation. It gives also the main provisions of those states which have not joined the International Convention.

*International Convention for the Prohibition of Night Work of Women Employed in Factories and Workshops.**

Article 1. Industrial night-work shall be prohibited for all women without distinction of age, with the exceptions hereinafter noted. This agreement shall apply to all industrial establishments employing more than ten men and women; in no case shall it apply to those establishments in which only members of the proprietor's family are employed. Upon each of the contracting states devolves the duty of defining what shall be understood by "industrial establishment." Among these shall be included, in any case, mines and quarries, as well as industries for the manufacture or working up of raw materials. On this last subject legislation in the individual states shall fix the limit between industry on the one hand and agriculture and commerce on the other.

Article 2. The night-rest contemplated in the preceding article shall have a minimum duration of eleven consecutive hours; in those eleven hours, whatever else be the legislation of each state, shall be included the interval from ten o'clock in the evening to five o'clock in the morning. In the states in which the night-work of adult women employed in industry has not yet been regulated, however, the length of uninterrupted rest may, temporarily, for a period of not over three years, be limited to ten hours.

Article 3. The prohibition of night work may be suspended; (1) in case of *force majeure*—the interruption of operations by

*Bulletin New York State Department of Labor, Dec., 1906, p. 437.

abnormal and non-recurrent causes beyond the control of the proprietor; (2) in case the labor is applied either to raw materials or materials in course of manufacture which may be liable to very rapid deterioration, when it is necessary to save the materials from inevitable loss.

Article 4. In industries affected by the seasons and, in case of exceptional circumstances, for all industries, the length of uninterrupted night rest may be reduced to ten hours for sixty days a year.

Article 5. Upon each of the contracting states devolves the duty of adopting the administrative measures which may be necessary to insure, within its territory, the strict execution of the provisions of this agreement. The governments shall inform each other, through diplomatic channels, of the laws and regulations upon the subject of this agreement, which are, or may hereafter be, in force in their respective countries, and shall report periodically to each other concerning the operation of these laws and regulations.

Article 6. The terms of this agreement shall be applicable to a colony, possession or protectorate only in case a notification to that effect shall be given to the Swiss federal council by the home government concerned. The home government in announcing its application to a colony, possession or protectorate, may give notice that the agreement will not apply to those native industries over which supervision would be impossible.

Article 7. In states outside of Europe, as well as in colonies, possessions or protectorates, when the climate or the condition of native populations demands it, the length of uninterrupted night rest may be less than the minimum fixed by this agreement on condition that in compensation rest shall be granted during the day.

Article 8. This agreement shall be ratified and the ratifications shall be filed not later than December 31, 1908, with the federal council of Switzerland. A report of the filing of the ratification shall be prepared, of which a duly certified copy shall be sent through diplomatic channels to each of the contracting states.

This agreement shall go into effect two years after the completion of the report. The period to elapse before enforcement is increased from two to ten years—

1. For the manufacture of unrefined beet sugar.
2. For the combing and spinning of wool.
3. For day work in mines when this work is interrupted for at least four months a year by climatic conditions.

Article 9. The states not signing this agreement may declare their adherence to it by an act addressed to the Swiss federal council, which shall communicate such act to each of the other contracting states.

Article 10. The delay provided in Article 8 for the entrance of this agreement into force shall begin, for the states not signing it, as well as for colonies, possessions or protectorates, from the date of their adherence to it.

Article 11. This agreement may not be renounced either by the states signing it, or by the states, colonies, possessions or protectorates which subsequently agree to it, before the expiration of a period of twelve years from the completion of the report of ratifications. It may then be renounced from year to year. The renunciation shall become effective one year after it shall be sent in writing to the Swiss federal council by the government concerned or, in case of a colony, possession or protectorate, by the home government concerned; the federal council shall immediately communicate such renunciation to the government of each of the other contracting states. The renunciation shall have effect only for the state, colony, possession or protectorate, in the name of which it shall be sent.

TABLE OF FOREIGN LEGISLATION PROHIBITING NIGHTWORK OF WOMEN IN INDUSTRIAL ESTABLISHMENTS.

INTERNATIONAL	NATIONAL
States Signing International Convention	*Provisions of Acts Establishing Earlier Closing Hour than International Convention.*
AUSTRIA	*Act of February, 1911.* Nightwork prohibited between 8 P. M. and 5 A. M. Exceptions allowed to 10 P. M. by local authorities and also in accordance with articles 3 and 4 of Convention.
BELGIUM	*Act of August, 1911, amended May, 1914.* Nightwork prohibited between 9 P. M. and 5 A. M. Exceptions allowed by royal order, and in accordance with articles 3 and 4 of Convention.
FRANCE *Also ratified as Home Country for:* ALGERIA TUNIS	*Act of 1892, amended December, 1911 (Art. 4).* Nightwork prohibited between 9 P. M. and 5 A. M. Exceptions allowed to 10 P. M., by departmental decree in accordance with articles 3 and 4 of Convention
GERMANY	*Industrial Code of 1891, amended December, 1911. (Art. 137-139b).* Nightwork prohibited between 8 P. M. and 6 A. M. Exceptions allowed to 9 and 10 P. M. by special permits, and also in accordance with articles 3 and 4 of Convention. *Notification of Federal Council, November, 1911.* Nightwork in fruit and vegetable preserving prohibited between 10 P. M. and 4:30 A. M.
GREAT BRITAIN	*The Factory and Workshop Act of 1901. (1 Edw. VII. Ch. 22).* *Hours—Textile Factories. (Sec. 24).* The period of employment, except on Saturday, shall either begin at 6 A. M., and end at 6 P. M., or begin at 7 A. M. and end at 7 P. M. There shall be allowed for meals during said period of employment on every day except Saturday not less than two hours of which one hour at least shall be before 3 P. M. Saturday, 6 A. M. to 12 if not less than one hour is allowed for meals; or 6 A. M. to 11:30 A. M. if less than one hour is allowed for meals; or 7 A. M. to 1 P. M., not less than half an hour for meals.

GREAT BRITAIN (*Continued*).	*Non-Textile Factories and Workshops* (*Sec. 26*). The period of employment, except on Saturday, sha either begin at 6 A. M. and end at 6 P. M. or begin at 7 A. M. and end at 7 P. M. or begin at 8 A. M. and end at 8 P. M. There shall be allowed for meals during the sai period of employment on every day except Satu day not less than one and one-half hours, o which one hour at the least shall be before P. M. Saturday, 6 A. M. to 2 P. M., or 7 A. M. to 3 P. M or 8 A. M. to 4 P. M., not less than half an hou for meals. Special exceptions granted permitting work betwee 9 A. M. and 9 P. M. (Sec. 36). *In a Workshop Which Does Not Employ Children o Young People* (*Sec. 29*). The period of employment shall, except on Saturda be a specified period of twelve hours taken b tween 6 A. M. and 10 P. M. and on Saturday specified period of eight hours taken between A. M. and 4 P. M. There shall be allowed to a woman for meals an absence from work during the period of employ ment not less than one hour and a half, and o Saturday than half an hour. *Special Order of Secretary of State, September, 19* (*Sec. 6a*). Nightwork in fruit preserving factories prohibite between 10 P. M. and 6 A. M.
Also signed as Home Country for: CEYLON FIJI ISLANDS GIBRALTAR GOLD COAST LEEWARD ISLANDS NEW ZEALAND NORTHERN NIGERIA TRINIDAD UGANDA PROTECTORATE	*Factories Act of 1906* (*Sec. 19*). Nightwork prohibited between 6 P. M. and 8 A. M.
HOLLAND	*Act of October, 1911* (*Sec. 2, Subsec. 6*). Nightwork prohibited between 7 P. M. and 6 A. M. Exceptions granted by decree in accordance wi articles 3 and 4 of Convention.
HUNGARY	*Act XIX of 1911.* Provisions same as Convention.
ITALY	*Laws of 1902, amended July, 1907* (*Secs. 4, 5, 1* Nightwork prohibited between 8 P. M. and 6 A. M. from October 1 to March 31; 9 P. M. and 5 A. M. from April 1 to September 30. Exceptions gra ed by departmental decree in accordance wi articles 3 and 4 of Convention.

LUXEMBURG	*Act of August, 1907.* Provisions same as Convention.
PORTUGAL	*Decree of June, 1911, amended January, 1915.* Provisions same as Convention.
SPAIN	*Act of July, 1912, amended August, 1913.* Nightwork prohibited between 9 P. M. and 5 A. M. Exceptions allowed in accordance with article 3 of Convention.
SWEDEN	*Act of November, 1909.* Provisions same as Convention.
SWITZERLAND	*Act of November, 1912, amended June, 1914.* Nightwork prohibited between 10 P. M. and 5 A. M. Exceptions allowed in accordance with articles 3 and 4 of Convention.
NON-SIGNATORY STATES	NATIONAL AND STATE LEGISLATION
BRITISH COLUMBIA	*Factories Act of 1908 (Sec. 14).* Nightwork prohibited between 8 P. M. and 7 A. M.
BULGARIA	*Act of March, 1905 (Art. 7).* Nightwork prohibited between 8 P. M. and 5 A. M. April 1 to October 1; 6 P. M. to 6 A. M. from October 1 to March 31.
GREECE	*Act of February, 1912, amended May, 1914.* Nightwork prohibited between 6 P. M. and 6.30 A. M. April 1 to September 30; 5.30 P. M. and 7.30 A. M. October 1 to March 31. Exceptions allowed by decree in accordance with articles 3 and 4 of Convention.
INDIA	*Factories Act of 1911.* Nightwork prohibited between 7 P. M. and 5.30 A. M.
LIECHTENSTEIN	*Industrial Code of April, 1910 (Secs. 47-50).* Nightwork prohibited between 9 P. M. and 6 A. M. Government may issue special rules for particular industries or in emergency not more than 60 days in one year.
MANITOBA	*Factories Act of 1902 (Secs. 10-15), amended by Acts of 1904 (Chap. 16).* Nightwork prohibited between 10 P. M. and 7 A. M. Overtime allowed 36 days in one year.
NEW BRUNSWICK	*Factories Act of April, 1905.* Nightwork prohibited between 10.30 P. M. and 6. A. M.

NEW SOUTH WALES	*Consolidated Acts of 1909; Factories and Shops Act, 1912 Part II (Sec. 46).* Nightwork prohibited between 6 P. M. and 6 A. M. Exceptions allowed by administrative authorities.
NOVA SCOTIA	*Factories Act of 1901 (Secs. 17-18).* Nightwork prohibited between 9 P. M. and 6 A. M.
ONTARIO	*Factory, Shop and Office Building Act of 1913 (Secs. 31-35).* Nightwork prohibited between 6.30 P. M. and 7 A. M. Overtime allowed 36 days in one year but not between 9 P. M. and 6 A. M.
QUEBEC	*Industrial Establishments Act of 1909 (Art. 3837) amended Stat. 1912 (Chap. 36).* Nightwork prohibited between 9 P. M. and 6 A. M. In cotton or woolen factories, between 6.30 P. M. and 7 A. M.
QUEENSLAND	*Factories and Shops Act of 1900, amended by Acts of 1908 (Sec. 46).* Nightwork prohibited after 9.30 P. M.
SASKATCHEWAN	*Factories Act of 1909 (Arts. 8 and 9).* Nightwork prohibited after 6.30 P. M. Overtime allowed 36 days in one year, but not between 10 P. M. and 7 A. M.
SERVIA	*Industrial Act of July, 1910 (Sec. 61).* Nightwork prohibited in summer between 8 P. M. and 5 A. M. In winter between 8 P. M. and 6 A. M.
SOUTH AUSTRALIA	*Factories Act of 1907 (Sec. 65) amended 1910 (Sec. 16).* Nightwork prohibited after 9 P. M.
WESTERN AUSTRALIA	*Factories Act of 1904 (Secs. 20 and 22).* Nightwork prohibited between 6 P. M. and 8 A. M. Overtime allowed not more than 30 days in one year.
VICTORIA	*Factories and Shops Act of 1912, amended 1914.* Nightwork prohibited after 9 P. M. Overtime allowed for two months by minister of labor.

[a] *1911 Japan enacted preliminary legislation to prohibit employment of women at night.*

III. WAR TIME EXEMPTIONS IN FOREIGN LEGISLATION.

Upon the outbreak of the war, most of the European countries which had signed the international convention on night work in 1906, legislated to grant wide exemptions from the labor laws, authorizing among other things, night work and over-time hours for women. But in the 3 years between 1914 to 1917 these general exemptions have in many countries been gradually narrowed again, so as to limit their application to certain classes of women and to tend toward restoring the original scope of the acts. While the most notable progress in all countries has been made in re-establishing the Sunday rest law and reducing hours of labor, successive steps have been taken also to limit the authorization of night work and to restore a period of rest at night for increasing numbers of women.

In the synopsis of laws and decrees which here follows, the excellent compilation of a recent publication of the Children's Bureau has been used throughout.* All the original sources have been searched in the preparation of this government report; the authorities therein quoted are followed here so far as concerns the night work of women; and the conclusions of the report on various points are quoted direct.

France.

Thus, in France, on August 2nd, 5th, and 14th, 1914, the Minister of Labor issued circulars to the inspectors of labor authorizing them to grant exemptions from the restriction of hours provided in the labor law and to stimulate national production in various ways. Yet the inspectors were especially cautioned on August 22nd against allowing over-time in neighborhoods where there was unemployment.

(*Bulletin du Ministère du Travail, 1914, pp. 99*, 100*; 1912, p. 340; 1913, Actes et Documents, p. 20.**)

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* Child Labor in Warring Countries. A Brief Review of Foreign Reports. Anna Rochester. United States Department of Labor. Children's Bureau. Industrial Series No. 4, 1917.

The views of the Provincial mixed labor commissions on the operation of these exemptions during 1915 are given in the bulletin of the Minister of Labor. Some of them desire continuance or increase of the exemptions (The Ain, Charente, Ariege, Haute Saône), while some asked for enforcement of the labor laws, prohibition of night work, etc. (The Rhône, the Gironde, Seine-Inferieure.)

(*Bulletin du Ministère du Travail et de la Prévoyance Sociale, July-August, 1916, p. 288. Travaux des commissions mixtes départementales pour la maintien du travail national. Réglementation du travail.*)

From the beginning of the war, says the Report of the Children's Bureau, "the Government emphasized the importance of protecting the health of the workers."

In February, 1916, the Minister of War appointed a committee on women's work to study and report on conditions necessary for the protection of women.

(*Bulletin du Ministère du Travail, January-February, 1916. Sous-Secrétariat d'Etat de l'Artillerie et des Munitions, Circular February 28, 1916.*)

Following the advice of this committee, the under secretary for arms and munitions on June 29, 1916, prohibited the employment of girls under 18 years of age at night in munitions works, allowed the employment of girls up to 21 years as an exceptional and temporary measure only and required that other women who are employed at night be carefully supervised, if irregular attendance shows illness on their part; if they are the mother of families, etc.

> "The necessity of pushing the production of munitions indispensible to the national defense has demanded that, in a certain number of establishments, women take part in night work, like men. It is important, however, to watch with the greatest care lest this exceptional and temporary measure involve

for the health and morals of the working women disadvantages which our labor legislation has been designed to prevent, and to limit to a minimum the exemptions allowed. . . .

"The employment of young girls, less than 18 years of age, in night work shall be forbidden.

"You will permit only as an exceptional right and temporarily the employment of working women from 18 to 21 years of age in night work. You will not grant this authorization except after you have ascertained that the scarcity of female labor does not enable the manufacturers to arrange for additional workers enough to replace these women in the night shifts.

"I shall ask you to examine the make-up of the night shifts, with the assistance of the manufacturers, in order to avoid the dangers or the serious disadvantages which night work may present for certain women, women whose frequent absences reveal precarious condition of health, women who are pregnant, mothers of families who are obliged to care for young children, etc."

(*Bulletin du Ministère du Travail, July-August, 1916, p. 131.* Sous-Secretariat de l' Artillerie et des Munitions, circular on night work of women, June 29, 1916.*)

In July, 1916, the Minister of Labor pointed out to the factory inspectors the importance of re-establishing labor standards:

"The prolongation of the war has made apparent the serious disadvantages involved in the continued use of certain of these exemptions. As the undersecretary of state indicated in the address which he delivered on June 6, 1916, the experience of war time has only demonstrated the necessity—technical, economic, and even physiological—of the labor laws enacted before the war. It is in our legislation of the time of peace that we shall find the conditions

for a better and more intense production during the war.' * * * The minister of labor then refers to the circular of June 29, 1916, sent out by the under secretary of state for arms and munitions upon the advice of the committee on women's work and indicating the limits which must be observed in granting exemptions relating to night work by women. He states that these exemptions are the maximum allowed, and not to be regarded as regular substitutes for the former law which should tend to be re-established so far as possible."

(*Bulletin du Ministère du Travail, July-August, 1916, p. 123*, summarized.*)

Upon recommendation of the committee on women's work additional limitations upon women's night work were ordered on January 4, 1917, in a circular of the minister of armaments and war manufactures. They prohibit night work and over time by pregnant women and nursing mothers.

(*Revue Philanthropique. January, 1917, p. 36.*)

Finally, an investigation begun by the Ministry of Labor on May 31, 1917, shows that the employment of women at night has been reduced to "almost insignificant proportions." The investigation included 787 industrial establishments. Only about a third of the total number of women working in these establishments, that is 58,784 women were employed at night. In many places 8-hour shifts have been introduced, so that nightwork is required of each shift only every third week.

"In the belief that in the interest of the family fur'her modifications might be made . . . without jeopardizing the requirements of the national defense, the committee in charge of female labor conditions gave expression to a certain number of desiderata which will soon be carried into effect. . . . It is also urged that nightwork for females of all ages, tolerated since the beginning of the war

by suspension of the rules on this subject, shall be suppressed wherever the conditions affecting the supply of raw materials, of motive power and of labor are such as to make it possible to obtain the same output by means of day labor alone; that when the output of a factory is decreased, nightwork be curtailed first of all for women; that whenever the hours of labor are decreased, the reduction apply first to nightwork."

(*United States Department of Commerce, Bureau of Foreign and Domestic Commerce. Daily Consular and Trade Reports. No. 47. Feb. 26, 1918, p. 738, Night Labor for Women in France. Commercial Attache, C. W. A. Veditz. Paris, January 28.*)

Great Britain.

In Great Britain the Secretary of State had, before the war, power to exempt establishments belonging to the Crown or workers for the Crown from the operation of the factory acts. In June, 1915, by an order in council this power was extended to cover other factories and workshops.

(*Bulletin of the International Labor Office. Vol. X, p. 374.*)

Under these exemptions, night work and over time hours were permitted by special order.

In September, 1915, the minister of labor appointed a committee of men and women to study the health of munition workers, including "industrial fatigue, hours of labor, and other matters affecting the physical health and physical efficiency of workers."

Up to October, 1917, this committee has published twenty memoranda and an interim report dealing with various phases of the subject. It has emphasized the injuries to health and productivity, especially among women and young persons, arising from excessive hours, over time and night work; it has made detailed studies of the effects of reducing hours, and has recommended a return to regular labor standards.

In January, 1916, the Committee wrote:

> "Taking the country as a whole the committee are bound to record their impression that the munitions workers in general have been allowed to reach a state of reduced efficiency and lowered health which might have been avoided without reduction of output by attention to the details of daily and weekly rests."

(*British Ministry of Munitions, Health of Munition Workers' Committee, Memorandum No. 7, Industrial Fatigue and its Causes (January, 1916), p. 10.*)

Other investigations of industrial fatigue have been made for the Home Office by Dr. A. F. Stanley Kent, Professor of Physiology in the University of Bristol. These studies also show the relation of output to health and fatigue and call for a reasonable working day.

Meanwhile towards the end of 1915, according to the Children's Bureau,

> "An interdepartmental committee on hours of labor was set up to insure that the ministry was fully informed as to the points at issue, and also to focus the attention of its officials on the importance of regulating the number of hours which could be worked to maintain adequate efficiency. The memoranda of the health of munition workers' committee served as a basis for the committee's work. The committee includes a representative of the Home Of-

fice, who is responsible for the conditions of employment of women, girls, and boys in munition factories, and officers representing the admiralty and the various supply departments and welfare section of the ministry. As a result of the committee's work certain definite orders have been issued for controlled factories, eliminating night work by girls under 16 years of age, providing one day of rest in seven for all females, and practically eliminating Sunday production in certain kinds of plants.'"*

These orders required also that if women are employed on night shifts they must be supervised by a welfare worker or responsible forewoman, and that they must be carefully selected and not indiscriminately employed.
(*Home Office General Order, Sept. 9, 1916, p. 1, and Circular Letter 198802 to accompany said order.*)

In its latest memorandum (No. 20, October, 1917) the Health of Munition Workers Committee states its belief that after two years of war, it is necessary to reduce hours of labor still further, and draws attention to the probable wastage of workers during this period, shown by the "large number of workers who for one reason or another, and often because they find the work too arduous, are continually giving up their job."**

ITALY.

In Italy a royal decree of August 30, 1914, authorized the suspension of the existing prohibition of night work for women and children, under specified conditions.
(*Bolletino dell' Ufficio del Lavoro, Fortnightly Series, Sept. 16, 1914, p. 190, and Bulletin of the International Labor Office, Vol. X, p. 73.*)

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* Child Labor in Warring Countries. Page 45.
** For full text, see Page A 15, ante.

War Time Exemptions.

On March 7, 1915, a royal decree authorized prefects in cases of necessity to allow exemptions from the night work law for bakers.

(*Bolletino dell' Ufficio del Lavoro, Fortnightly Series, March 16, 1915, p. 72, and Bulletin of the International Labor Office, Vol. X, p. 146.*)

The exemptions allowing night work were further encouraged by a ministerial circular exempting applications from the stamp tax.

(*Circular of June 30, 1915, No. 5538, Referred to in Boll. dell' Ufficio del Lavoro, Fortnightly Series, July 1, 1915, p. 159.*)

On the other hand the dangers of suspending provisions of the labor laws were recognized by the institution of medical inspection of industry and labor, in January, 1915, under the direction of two men of high standing, Professor Giovani Loriga with the collaboration of Professor Luigi Carozzi.

(*Circular of Feb. 1, 1915, of the Minister of Agriculture, Industry, and Commerce to the Prefects of the Realm in Il Lavoro, Feb. 26, 1915.*)

In July, 1915, the public health experts of the group for Medicinal Propaganda in War Time pointed out the special dangers of night work for women.

> "Women are now admitted to night work in certain industries. The evil effects of night work on the female organism are well known—the consequent predisposition to blood troubles and to diseases of the digestive and nervous systems. These women are serving the State; they should be safeguarded and supervised by committees."

(*Leaflets Issued by the Group for Medical Propaganda in War Time, No. 9, in Il Lavoro, July 31, 1915, p. 221, Summarized.*)

War Time Exemptions.

Special attention was called to the need of safeguarding women employed at night in a circular of the under secretary of arms and munitions of Sept. 28, 1916.
(*Comitato Nazionale per il Munizionamento, Il Lavoro Femminile nella Industria di Guerra Italiana, January, 1917. Quotations from Circular of September 28, 1916, of the Under Secretary of Arms and Munitions.*)

Beginning in the autumn of 1916, memorials were addressed to the Government by the Federation of Labor and other bodies urging the re-establishment of former labor standards.
(*La Confederazione del Lavoro, October 1, 1916, p. 523. Bollettino dell' Ufficio del Lavoro, November 16, 1916, p. 171.*)

By February, 1917, the restoration of the weekly day of rest was ordered with exceptions allowed in imperative cases only, in establishments working for the national defense.

> . . . "Now that industry has passed through the period of feverish adjustment that characterized the second half of 1915 and a large part of 1916, such a provision, while not diminishing the intensity of production, will indubitably aid in maintaining the health of the workers and so add continuity of production,"

says the circular of the under secretariate of arms and munitions.
(*Bollettino dell' Ufficio del Lavoro, Fortnightly Series, March 16, 1917, pp. 51, 52.*)

Finally, in accordance with a decree of March 15, 1917, regulations were issued on April 30, 1917, by the under secretariate of arms and munitions including among other things limitation of the hours of labor of

women to 60 hours in one week, and prohibition of night work of women under 18 years, and children.

"Since the excessive prolonging of the hours of labor, if done in normal times, is in the end of more disadvantage than advantage to production, especially when it is a question of a labor force of women and young persons, the working hours of women of whatever age and of children must not as a rule exceed 60 hours per week."

(*Circular No. 309813 (April 30, 1918) of the under Secretariate of Arms and Munitions for the Protection of the Labor Force of Women and Young Persons in Bollettino dell" Ufficio del Lavoro, Fortnightly Series, June 1, 1917, pp. 97, 98.*)

"These regulations," says the Report of the Children's Bureau, "do more than re-establish pre-war labor standards; in some respects the standards are even higher than those demanded before Italy entered the struggle."

The Netherlands.

In the Netherlands, the military authorities were empowered under the martial law to order suspension of the labor laws.

(*Decree of August 10, 1914, (Staatsblad No. 406), Law of October 16, 1914, (Staatsblad No. 491), and other decrees.*)

Under this authority, military commanders granted various temporary exemptions and permitted night work in three textile mills. "All these exemptions on war orders had expired or were cancelled by November 1, 1915, except one which ran until December 1, 1915."

(*Child Labor in Warring Countries, p. 62.*)

War Time Exemptions.

Russia.

In Russian exemptions from the labor laws for women and children were not authorized until March 9/22, 1915, when a decree of the Czar permitted night work in coal mines.
(*Bulletin of the International Labor Office, Vol. X, p. 381.*)

An imperial decree of October 19/November 1 authorized the minister of commerce and industry to grant exemptions for night work and overtime on articles necessary for the state defense.
(*Collection of working regulations issued in accordance with Article 87 of the fundamental laws of the Russian empire. Third supplement to the collection issued in 1913, Petrograd 1916, pp. 166, 167.*)

According to the report of the Children's Bureau, "no information is available about the administration of these exemptions or the frequency with which they were granted."
(*Child Labor in Warring Countries, p. 64.*)

But on June 1, 1917, (apparently by order of the Minister of Labor) both the exemption laws of March 9/22, 1915, and October 19/November 1, 1915, permitting night work and overtime of women and children in coal mines and for national defense, were repealed.
(*Viestnik Vremiennago Pravitelstva, July 13/27, 1917.*)

The Minister of Labor has also proposed to the Provisional Government a bill prohibiting night work in industries coming under the factory inspection law.*

Switzerland.

On August 11, 1914, the Swiss Federal Council addressed a circular letter to the Cantonal governments authorizing them to grant temporary exemptions from the

* Information received from the Children's Bureau, under date of December 21, 1917.

factory acts, in "cases where this is the only possible way of continuing work." Exemptions shall be refused if the emergency can be met by the engagement of unemployed workers.
(*Bulletin of the International Labor Office, Vol. X, pp. 75-76.*)

In November and December, 1915, specific instructions were issued as to the exemptions to be allowed, including the requirement of payment of 25 per cent additional wages for all over-time work and 50 per cent additional for all night or Sunday work.
(*Bulletin of the International Labor Office, Vol. X, pp. 384-386.*)

A later order reduced this payment to 25 per cent increase for all over-time, Sunday or night work.
(*Bulletin of the International Labor Office, Vol. XI, p. 54.*)

AUSTRIA-HUNGARY.

In Austria Hungary exemptions allowing night work of women and girls were not resorted to by a general decree until September 11, 1915, following a Royal order of October 10, 1914, which empowered the government to adopt extraordinary war measures. This decree of the Minister of Commerce required that if exemptions from prohibition of night work were granted in case of need,

> "each individual application for exemptions must be investigated by the competent industrial inspector and if the inspector and the provincial authorities disagree as to whether permit should be granted the ministry of commerce would decide."

(*Bulletin of the International Labor Office, Vol. XI, p. 31, summarized.*)

War Time Exemptions.

It was required that registers of the permits granted must be sent quarterly to the Minister of Commerce.
(*Bulletin of the International Labor Office, Vol. XI, p. 31.*)

The Sunday and Holiday Rest Law which had been abrogated by the Imperial Decree of July 31, 1914, was restored in the book printing trade by ministerial order of August 20, 1914, and in commercial establishments by an order of December 28, 1915.
(*Bulletin of the International Labor Office, January-February, 1915, Vol. X, p. 59, and January-February, 1916, Vol. XI, p. 33.*)

In 1915 also the Provincial authorities were instructed not to grant exemptions for the employment of women and girls at night and for overtime in establishments where cotton was prepared. The reason for this order was the danger of unemployment because of the scarcity of raw material.
(*Bulletin of International Labor Office, Vol. XI, p. 32.*)

On February 8, 1917, all nightwork in bakeries was prohibited between 9 P. M. and 5 A. M. Military bakeries are not included and special exemptions are allowed. This order is for the duration of the war only, but the Government has stated that it would try to make the provision permanent.*
(*Bulletin du Ministére de Travail et de la Prévoyance Sociale, January-March, 1917.*)

In Hungary too the "only change in labor standards reported" is a new prohibition of nightwork in bakeries, between 6 P.M. and 6 A.M. by a ministerial order of June 16, 1917.
(*Bulletin of the International Labor Office. German Edition. Vol. XV, p. 291.*)

* Information received from the Children's Bureau, December 21, 1917.

War Time Exemptions.

Germany.

In Germany the Imperial Chancellor was authorized by the act of August 4, 1914, to grant exemptions from the provisions of the labor laws.
(*Bulletin of the International Labor Office. Vol. X, p. 38.*)

While these exemptions allowing night work and overtime for women do not appear to have been again narrowed by law, it is reported that protests against them have come from social workers, working people and social democrats, and petitions have been addressed to the Reichstag urging the repeal of the emergency law of Aug. 4, 1914. (Zentralblatt für Gewerbehygiene, January, 1915, p. 12).
(*Bulletin of the International Labor Office, 1916, Vol. XI, p. 239.*)

On the other hand, one of the German war measures was the prohibition of all nightwork in bakeries.
(*Soziale Praxis, Sept. 9, 1915, p. 1176.*)

According to the Report of the Children's Bureau very little information has been received from Germany since the spring of 1916.

Greece

In Greece a law was passed in October, 1915, also authorizing suspension of the labor laws under special conditions in case of mobilization.
(*Bulletin of the International Labor Office, Vol. II, p. 52.*)

Between December 24, 1914, and January 6, 1915, the prohibition of nightwork in bakeries was in part suspended by special permission.
(*Bulletin of the International Labor Office. Vol. XI, German Edition I and II, p. 15.*)

DECISION OF THE NEW YORK COURT OF APPEALS UPHOLDING THE NEW YORK LAW PROHIBITING EMPLOYMENT OF WOMEN AT NIGHT IN FACTORIES.

THE PEOPLE OF THE STATE OF NEW YORK, RESPONDENT, VS. CHARLES SCHWEINLER PRESS, A CORPORATION, APPELLANT.

The statute for violation of which the appellant was convicted reads as follows:

"Par. 93-b. Period of rest at night for women. In order to protect the health and morals of females employed in factories by providing an adequate period of rest at night no woman shall be employed or permitted to work in any factory in this state before six o'clock in the morning or after ten o'clock in the evening of any day".

Hiscock, J. This appeal presents for consideration a question of the constitutionality of certain industrial legislation, so-called.

It is undisputed that the appellant caused or permitted a married woman to work in a factory operated by it between the hours of ten o'clock in the evening and six o'clock in the morning, and thereby violated the provisions of the act above quoted, and became subject to the punishment duly prescribed for such violation. It challenges, however, the legality of its conviction for the reason as claimed that said act unduly and unjustifiably interferes with the right of an adult woman to contract for her own labor, and thus violates various provisions of the Constitution both of the State and of the United States, which in effect provide that no one shall be deprived of life, liberty or property except by due process of law, and that no unjust discrimination shall be made between different classes of citizens by denial of the equal protection of law.

The answer to this challenge is that night work in factories as contrasted with day labor substantially affects and impairs the physical condition of women and prevents them from discharging in a healthful and satisfactory manner the peculiar functions which have been imposed upon them by nature, and that, therefore, it was within the power of the Legislature to enact the statute as a police regulation tending to protect the well-being of a large class of citizens and promote the public welfare.

We are, therefore, presented with the issue whether it can be said that night work by women in factories is so generally and substantially injurious to their health that the Legislature was

justified by public considerations in preventing the evil by forbidding the cause. In the determination of this question it will be well first to summarize some of the facts and reasons which induced the legislation, and, second, to test the sufficiency of these as a basis for the statute by certain principles of law applicable to such a case.

There are certain fundamental facts involved in the decision of the question which are beyond any dispute. The statute forbids night work simply in factories. We know as a matter of common observation that much labor is generally performed indoors and that under average conditions and surroundings existing in factories, even when performed in the day time, it is ordinarily arduous and exacting.

Impairment caused by exhaustion or even ordinary weariness must be repaired by normal and refreshing sleep and rest if health and efficiency are to be preserved. The natural and common order of work and rest is that the former shall be for the most part performed during the hours of day and the latter enjoyed during the night. Habitual and continuous work by night is at variance with this order.

Protection of the health of women is a subject of special concern to the state. However confident a great number of people may be that in many spheres of activity, including that of the administration of government, woman is the full equal of man, no one doubts that as regards bodily strength and endurance she is inferior and that her health in the field of physical labor must be specially guarded by the state if it is to be preserved and if she is to continue successfully and healthfully to discharge those peculiar duties which nature has imposed upon her. This proposition is fully recognized and stated in Muller *vs.* Oregon (208 U. S. 412, 421).

And if any further brief evidence of the truth of the proposition were necessary it would be found in the many statutes which have been adopted in this state without question of their constitutionality particularly designed to protect and preserve the health of women when engaged in various kinds of physical labor.

Moved in part it may be by such general and underlying considerations as these, under and in accordance with two statutes adopted by our Legislature in 1911 and 1912 (Laws of 1911, chapter 501; Laws of 1912, chapter 21), there was appointed in the latter year a factory investigating commission. This commission considered this subject of night work by women in fac-

tories and in 1913 made a report to the Legislature, recommending that there be passed the law now before us prohibiting it. It reported that such prohibition was essential to protect and preserve the health and to some extent the morals of women.

While it is impossible to review at length this report and recommendation and the foundations therefor, it may briefly and generally be stated that it was based upon and supported by quite an extensive investigation by the commission of actual factory conditions in this state where women performed night work, by many opinions of medical and other experts, and examination of other industrial investigations and legislation adopted in other jurisdictions in obedience we must assume to public opinion, forbidding such night work. It was also supported, whether expressly so stated or not, by the general considerations first above set forth. Amongst other things in the report to which special reference may be made, it appeared that in 1906 there assembled in Switzerland representatives of fourteen European governments who signed an international convention for the prohibition of industrial work at night by women, and that prior to 1912 all of the powers represented except one had ratified the convention, and that in many cases such legislation provided for a longer period of rest at night than that recommended by the international agreement. It also appears now by the briefs submitted to us, whether that was stated in the report or not, that nine of the United States had passed legislation prohibiting such night work for women.

Thus at the time when this statute was adopted there was before the Legislature the report of a commission created by it to consider and report on this subject, based on natural laws and on actual investigation, a large volume of expert and medical opinion and a large number of statutes adopted in various jurisdiction, all of which tended to show a careful and long-continued study and examination of the subject of night work by women, and as a result of such study and examination a widespread belief that such work was so injurious to their health that it ought to be prohibited both for their own sakes and for the sake of the offspring whom they might bear.

We then come to the query whether such facts, evidence and information furnished a sufficient reason for action by the Legislature and justified the statute which was adopted, and I think the answer must be in the affirmative.

In the decision by the Legislature whether it should adopt such legislation, and in the determination by us whether the

Legislature was justified in adopting it, it was and we are entitled to take into account the report made by the commission, such facts tending to support it as were matters of common knowledge, and the wide-spread and long-continued belief evidenced by statutes and in other manners that night work by women in such a place as a factory is so injurious that grave dangers therefrom are to be apprehended.

In Muller *vs.* Oregon (supra) it was said: "Constitutional questions, it is true, are not settled by even a concensus of present public opinion, for it is the peculiar value of a written constitution that it places in unchanging form limitations upon legislative action, and thus gives a permanence and stability to popular government which otherwise would be lacking. At the same time, when a question of fact is debated and debatable, and the extent to which a special constitutional limitation goes is affected by the truth in respect to that fact, a widespread and long-continued belief concerning it is worthy of consideration. We take judicial cognizance of all matters of general knowledge." (p. 420.)

In Matter of Viemeister (179 N. Y. 235, 240), which considered the constitutionality of a statute passed in the exercises of the police power of the state concerning vaccination, it was said: "A common belief, like common knowledge, does not require evidence to establish its existence, but may be acted upon without proof by the Legislature and the courts. While the power to take judicial notice is to be exercised with caution and due care taken to see that the subject comes within the limits of common knowledge, still, when according to the memory and conscience of the judge, instructed by recourse to such sources of information as he deems trustworthy, the matter is clearly within those limits, the power may be exercised by treating the fact as proved without allegation or proof." . . .

The knowledge and information before the Legislature which it was thus entitled to consider presented to it a subject of general interest and public concern which justified consideration and legislation. It warranted the belief that night work by women in factories is generally, substantially and especially detrimental to their health, and surely it is a matter of vital importance to the state that the health of thousands of women working in factories should be protected and safeguarded from any drain which can reasonably be avoided. This not only for their own sakes but, as is and ought to be constantly and legitimately emphasized, for the sake of the children whom a great

majority of them will be called on to bear and who will almost inevitably display in their deficiencies the unfortunate inheritance conferred upon them by physically broken down mothers.

The Legislature was justified in preventing any such evils as those which were outlined, both real and fairly to be anticipated, by any legislation which reasonably tended to prevent them, and it had a wide discretion in formulating the means which it would adopt to this end. (People ex rel. Nechameus *vs.* Warden, etc., 14 N. Y. 529, 535; People *vs.* Ewer, 141 N. Y. 129.)

It was a sufficient basis in that respect for action if only there were reasonable grounds for belief that such labor was thus injurious, even though there was an "earnest conflict of serious opinion on the subject. (Holden *vs.* Hardy, 169 U. S. 366, 395; Erie Railroad Co. *vs.* New York, 233 U. S. 671, 699.)

The only question then left is the one whether the Legislature was justified in going so far as to prohibit night labor in factories between the hours named by it as a means of promoting the public welfare by averting the actual or apprehended misfortune of broken health of working women. There are well established general rules by which to test this question.

In considering legislation adopted for such a purpose we must start out with the presumption that it is constitutional and valid. (People ex rel. Kemmler *vs.* Durston, 119 N. Y. 569, 577). If the statute upon its face appears to be reasonable and just and appropriate, and we can fairly believe that its natural consequences will be in the direction of betterment of public health and welfare, and therefore, that it is one which the state for its protection and advantage may enact and enforce, it will be the duty of the courts to pronounce it constitutional even though they should doubt its wisdom. (People *vs.* Klinck Packing Co., 214 N. Y. 121; Holden *vs.* Hardy, 169 U. S. 366, 395.) Or, to state the rule in converse form, before we can pronounce such a statute as that now before us unconstitutional we must be able to see either that there is no real, substantial evil of public interest to be guarded against or that there is no reasonable relation between the evil and the purported cure or prevention offered by the statute. (Booth *vs.* Illinois, 184 U. S. 425; Chicago, B. & Q. R. R. Co. *vs.* McGuire, 219 U. S. 549.)

It is not a basis for a constitutional objection to a statute like this generally prohibiting the labor of women between certain hours that in exceptional cases it may prevent employment of some women for a short time between those hours under such conditions as would be productive of no substantial harm. A

Legislature must legislate in general terms, and its mandates are not constitutionally vulnerable because having power to act concerning a certain subject and to legislate in terms reasonably calculated to accomplish the general purpose within the scope of its authority, it covers and prohibits some isolated transaction which by itself would be harmless and unobjectionable. (Purity Extract & Tonic Co. *vs.* Lynch, 226 U. S. 192; People ex rel. Hill *vs.* Hesterberg, 184 N. Y. 126, 131; Otis *vs.* Parker, 187 U. S. 606.)

Neither is it an effective objection to a statute if some of those who will be protected by its provisions oppose such protection, for the state has such an interest in the welfare of its citizens that it may, if necessary, protect them against even their own indifference, error or recklessness. (Holden *vs.* Hardy, 169 U. S. 366; Hennington *vs.* Georgia, 163 U. S. 299.) Nor if some cases which might have been included are omitted, for police legislation may rest on narrow distinctions. (Keokee Cons. Coke Co. *vs.* Taylor, 234 U. S. 224; German Alliance Ins. Co. *vs.* Kansas, 233 U. S. 389.)

Tested and fortified by these rules, we cannot and ought not to say that the Legislature did not act within the wide powers of discretion and judgment possessed by it in adopting the prohibition which it did as a means of preventing the evils with which it was justified in believing the state to be threatened as the result of such night work by women.

There can be no doubt that the means adopted tended to prevent the apprehended danger. The only chance for debate would be whether the prohibition is so wide and so universal that it can be said that it is so out of proportion to the benefits sought that it is burdensome and unreasonable to a degree which transcends the discretion of the Legislature. We feel sure this cannot be said. What is reasonable and appropriate in such a matter must be largely decided by prevailing opinion and judgment, and by reference to what has been and is being done with approval by this and other states and countries in the same and similar matters, and, as has been pointed out, there is no lack of support in such respects for the present enactment. If it is proper, as it certainly has been held to be both by widely held public opinion and by the decisions of the Supreme Court of the land, to protect the health of woman by restricting the hours during which she may labor in certain pursuits, it cannot be said as a matter of constitutional law that it is illogical and improper for the Legislature to take the further step, which it now has taken,

and say that those hours of labor must not be performed at times and under conditions which as a matter of general experience tend generally and substantially to break down the health of the laborer. It requires no very great exercise of judgment and discretion to justify this additional forward step in protective regulation, and it seems to us to be within the power possessed by the Legislature. Of course we are well aware that the process of justifying a new step by the fact that it marks but a short advance over the last preceding one if continued long enough may lead to extremes which cannot be approved. But while we may appreciate that possibility, we only have before us now the specific advance taken by this particular statute, and as we have indicated we think that it is not only not condemned by the test of all the facts and principles of law which are applicable, but is supported and sustained by them.

Various other grounds have been urged upon our attention as ones upon which the constitutionality of the statute might rest. They have not been overlooked, but it is deemed unnecessary to consider them in view of our conclusion in respect of the question which has been discussed.

Therefore, we conclude the statute is constitutional as a police regulation in the interest of public health and the general welfare of the people of the state.

In reaching the conclusion above set forth we have not overlooked or failed to consider the forcibly expressed argument of the appellant that we have been passing through days when many people were prodigal in their generous willingness to devise statutory cures for other people who neither demanded, desired or needed them, and that this statute in its universal application to all factories will inflict unnecessary hardships on a great many women who neither ask nor require its provisions by depriving them of an opportunity to earn a livelihood by perfectly healthful labor although performed during some of the hours of the night. There may or may not be force in some of these arguments. They are of the kind which involve questions of discretion, judgment and public policy and must be addressed to the Legislature. . . . At any rate, it ought not to be expected that this court will seek to offset the errors in judgment of the Legislature, if any there be, in the case of such legislation by straining to overcome the presumption of validity which attaches to such a measure when it comes from the hands of the law-making body and by affixing the stamp of unconstitutionality unless it is clearly called for.

Lastly, it is urged that whatever might be our original views concerning this statute, our decision in People *vs.* Williams (189 N. Y. 131) is an adjudication which ought to bind us to the conclusion that it is unconstitutional. While it may be that this argument is not without an apparent and superficial foundation and ought to be fairly met, I think that a full consideration of the Williams case and of the present one will show that they may be really and substantially differentiated and that we should not be and are not committed by what was said and decided in the former to the view that the Legislature had no power to adopt the present statute. The statute under consideration in the Williams case, like the present one, prohibited night work by women in factories, and while its provisions were somewhat more drastic than those of the present one, it may be conceded that these differences were of details and would not serve to distinguish that statute from the present one in respect of its constitutionality. But the facts on which the former statute might rest as a health regulation and the arguments made to us in behalf of its constitutionality were far different than those in the present case.

That statute bore on its face no clear evidence that it was passed for the purpose of protecting the health and welfare of women working in factories, and while of course the presence or absence of such a label would not be controlling in determining the purposes and validity of the statute, it still was in that case an incident of some importance as leading to the conclusions finally expressed by Judge Gray and adopted by the court as appears by the quotations from his opinion hereafter made.

While theoretically we may have been able to take judicial notice of some of the facts and of some of the legislation now called to our attention as sustaining the belief and opinion that night work in factories is widely and substantially injurious to the health of women, actually very few of these facts were called to our attention, and the argument to uphold the law on that ground was brief and inconsequential.

Especially and necessarily was there lacking evidence of the extent to which during the intervening years the opinion and belief have spread and strengthened that such night work is injurious to women; of the laws, as indicating such belief, since adopted by several of our own states and by large European countries, and the report made to the Legislature by its own agency, the factory investigating commission, based on investigation of actual conditions and study of scientific and medical

opinion that night work by women in factories is generally injurious and ought to be prohibited.

The failure adequately to fortify and press upon our attention the constitutionality of the former law as a health and police measure and to sustain its constitutionality by reference to proper facts and circumstances is sufficiently evidenced by what was said by Judge Gray.

So, as it seems to me, in view of the incomplete manner in which the important question underlying this statute—the danger to women of night work in factories—was presented to us in the Williams case, we ought not to regard its decision as any bar to a consideration of the present statute in the light of all the facts and arguments now presented to us and many of which are in addition to those formerly presented, not only as a matter of mere presentation, but because they have been developed by study and investigation during the years which have intervened since the Williams decision was made. There is no reason why we should be reluctant to give effect to new and additional knowledge upon such a subject as this, even if it did lead us to take a different view of such a vastly important question as that of public health or disease than formerly prevailed. Particularly do I feel that we should give serious consideration and great weight to the fact that the present legislation is based upon and sustained by an investigation by the Legislature deliberately and carefully made through an agency of its own creation, the present factory investigating commission.

I, therefore, think that the order appealed from should be affirmed.

Chase, Hogan, Miller and Cardozo, JJ., concur; Willard Bartlett, Ch. J., concurs in the result and in that part of the opinion which discusses the Williams case; Collin, J., not voting.

Order affirmed, March 26, 1915.

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